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Technical Enforcement Support at Hazardous Waste Sites TES 11 – Zone 4

RCRA FACILITY ASSESSMENT
PR/VSI REPORT

U.S. ARMY FORT RICHARDSON
ANCHORAGE, ALASKA

EPA I.D. NO. AK1210022157



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1.0 INTRODUCTION

This section of the PR/VSI report covers the purpose and scope of the RFA program. The contents of the other report sections are also described.

1.1 PURPOSE AND SCOPE OF THE RFA PROGRAM

The 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) provide new authority to the U.S. Environmental Protection Agency (EPA) to require comprehensive corrective actions on solid waste management units (SWMUs) and other areas of concern at interim status hazardous waste management facilities, particularly those applying for RCRA permits. These corrective actions are intended to address unregulated releases of hazardous constituents to air, soil, surface water, and ground water, as well as the generation of subsurface gas.

A major activity in EPA's corrective action program consists of a RCRA Facility Assessment (RFA). According to the EPA's RCRA Facility Assessment Guidance Document (October 1986), the purposes of an RFA are to:

1. Identify and gather information on releases at RCRA-regulated facilities.
2. Evaluate solid waste management units and other areas of concern for releases to all environmental media, and regulated units for releases other than to ground water.
3. Make preliminary determinations regarding releases of concern and the need for further actions and interim measures at the facility.
4. Screen from further investigation those SWMUs which do not pose a threat to human health and the environment.

The three basic steps of an RFA consist of a preliminary review (PR) of existing file and other generally available or requested information, a visual site inspection (VSI) to confirm and/or obtain additional information on past or potential releases, and a sampling visit, when warranted, to fill information gaps by obtaining field and analytical data.

1.2 REPORT CONTENTS

This report presents the results of a PR and VSI performed at U.S. Army Fort Richardson in Anchorage, Alaska. The principal sources of information used include correspondence between the facility and regulatory agencies, studies commissioned by the facility, site maps and diagrams, the site visit, and the facility's RCRA Notification form. Files maintained by EPA Region 10 in Seattle and the Alaska Department of Environmental Conservation (DEC) in Anchorage and Fairbanks were reviewed.

The VSI was conducted on June 19, 20, and 21, 1989, by Iris Banz and Thomas Tobin, both of Science Applications International Corporation (SAIC). Mr. Geoffrey Kany, Alaska DEC, also participated in the VSI. The Fort Richardson

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representative assisting the SAIC and Alaska DEC site inspectors was Mr. Paul Stuecke, Environmental Engineer.

Section 2.0 of this report describes the Fort Richardson post, including its historical and current operations. A list of individual SWMUs and a summary description of wastes managed are also included in this section. Section 3.0 provides an overview of the environmental setting at the facility including meteorologic, climatic, geologic, hydrologic and receptor information. A description of the SWMUs and areas of concern identified during the PR and VSI are provided in Section 4.0. References are provided as the final section of this report, and the VSI photograph log and field notes are presented as appendices.

2.0 FACILITY DESCRIPTION

2.1 LOCATION

Fort Richardson is located within the municipality of Anchorage in south-central Alaska, at 61°15'N, 149°40'W. It is bounded by the city of Anchorage and Elmendorf Air Force Base on the west, Eagle Bay and the Knik Arm of the Cook Inlet on the north, and undeveloped lands and Chugach State Park on the east and south (Figure 1). The town of Eagle River is located on the eastern border. The installation covers approximately 62,720 acres (2). About 60 percent of this area is used for maneuvers, 29 percent for firing ranges and impact areas, and 11 percent for the main cantonment area (Figure 2).

2.2 HISTORICAL AND CURRENT OPERATIONS

2.2.1 General History

An Army Air Corps Post was completed at this location and named Fort Richardson in November 1940. It was under the command of the Alaskan Defense Force and had a primary mission of defending Alaska against foreign invaders (3). By December 1941, about 7,800 Army personnel were stationed at Fort Richardson.

During World War II, Fort Richardson was important as a staging area and supply point. During World War II, troop strength ranged from 7,800 to over 15,500. In 1950, a new cantonment area was established on the northern part of Fort Richardson and about a third of Fort Richardson's land area was released to the Air Force for the formation of Elmendorf Air Force Base. Construction of the new cantonment area was completed in 1955.

In 1959, Nike Hercules missiles were assigned to Alaska. In 1964, Fort Richardson sustained approximately \$17,000,000 in damages as a result of the Good Friday Earthquake (3), including extensive damage to the Site Point Nike Hercules Battery. In 1973, the 172nd Infantry Brigade (Alaska) assumed control and command of Army units in Alaska.

2.2.2 Current Operations

Several activities conducted at Fort Richardson generate hazardous materials and/or hazardous waste; these include:

- Vehicle maintenance
- Building and grounds maintenance
- Limited helicopter maintenance
- Petroleum, oil, and lubricant (POL) handling
- Explosive ordnance disposal (EOD)

The overall responsibility for managing hazardous waste at Fort Richardson lies with the Installation Commander. Daily responsibility for running the program was delegated to the Environmental Resources Branch of the Directorate of Engineering and Housing (DEH). These responsibilities include overseeing the hazardous waste management program, ensuring that generators are in compliance with the facility's Hazardous Waste Management Plan (5), and providing hands-on assistance to generators as needed. The Directorate of Logistics (DOL) operates the hazardous waste storage area, performs some hazardous waste transportation

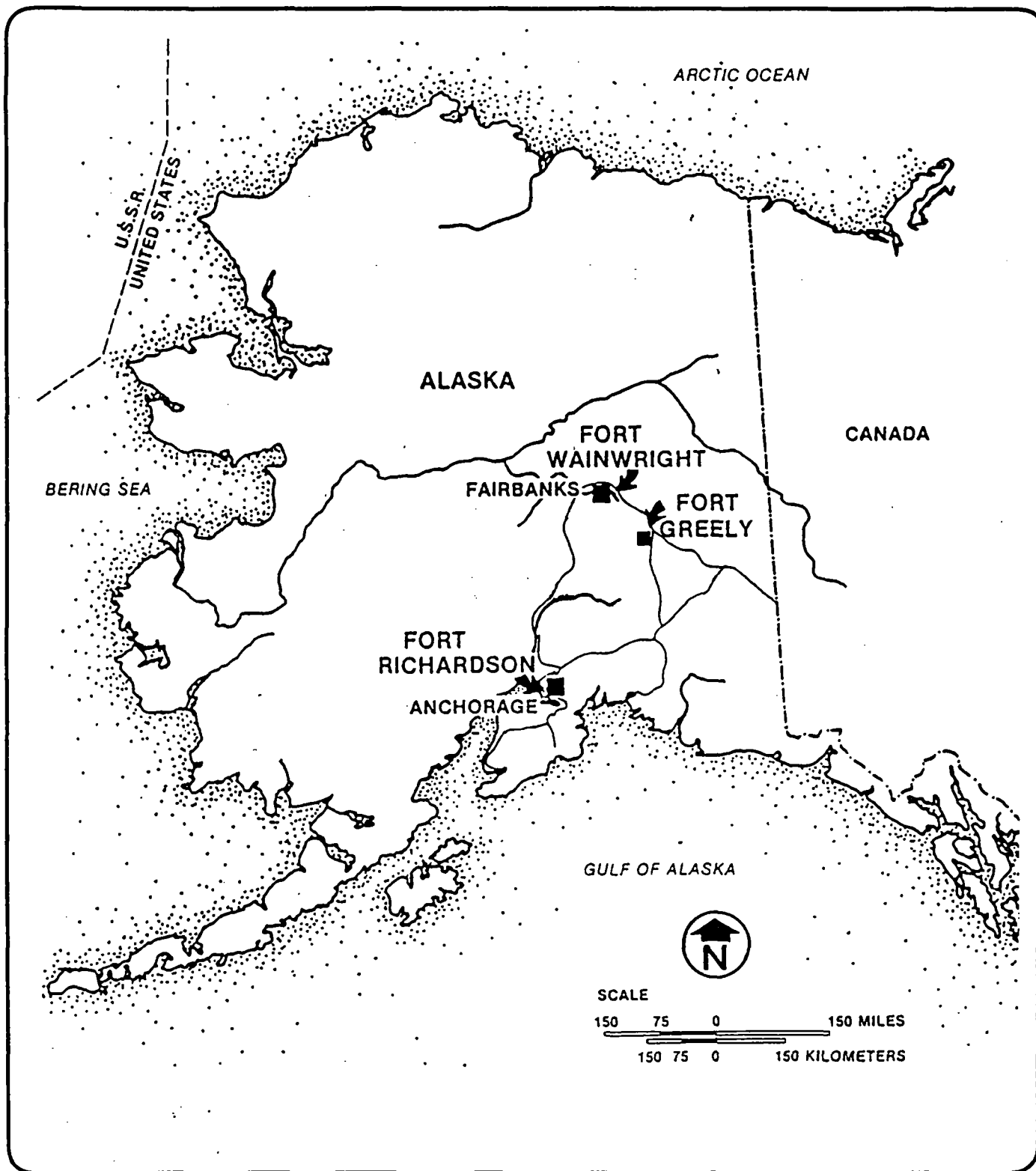


Figure 1

FORT RICHARDSON LOCATION MAP
Source: Reference 3

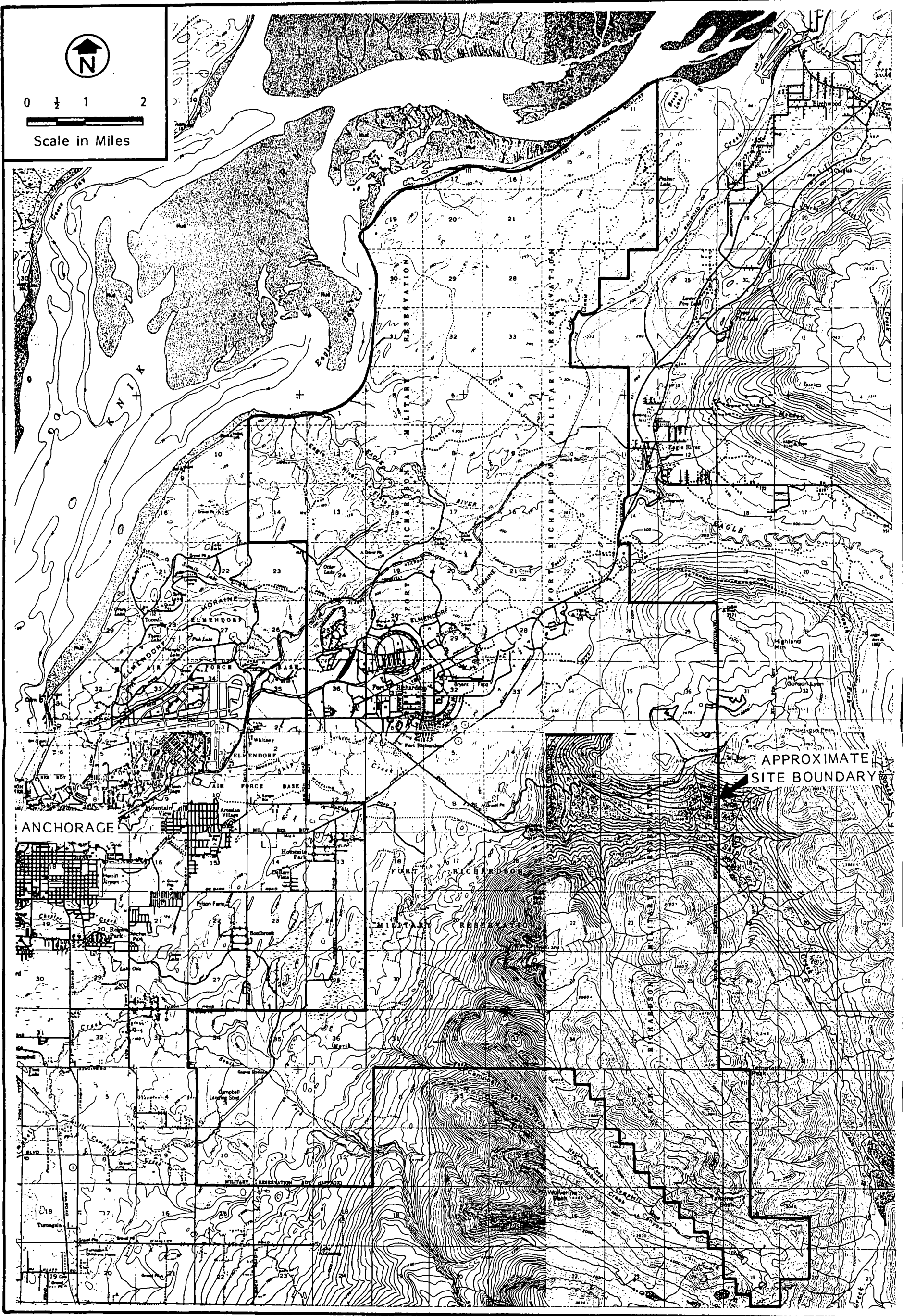


Figure 2

FORT RICHARDSON MAIN CANTONMENT AREA
Source: Reference 4

activities, and operates the hazardous waste staging area. Hazardous waste generators are responsible for handling materials safely during accumulation and properly turning hazardous materials and hazardous wastes in to the Defense Reutilization Marketing Office (DRMO) at Elmendorf Air Force Base. This includes proper packaging and labeling, preparation of a turn-in document, and notification of the Environmental Resources Branch when materials are ready for turn-in.

A 1988 review by the U.S. Army Environmental Hygiene Agency (AEHA) indicated that overall management support for the environmental program within the 6th ID(L) was weak (2). Personnel were not receiving adequate training in the prevention of and response to accidental spills, and appropriate environmental documentation was not being prepared for division activities. The major cause of these shortcomings was cited as insufficient staffing (2).

The DRMO at Elmendorf Air Force Base is responsible for the reuse, resale, or disposal of all hazardous materials and hazardous wastes generated at Fort Richardson. Most hazardous materials or hazardous wastes are turned in to DRMO after accumulation. One exception to this is used non-contaminated lubricating oil which is shipped by rail to Fort Wainwright for energy recovery. When DRMO cannot store a hazardous item at their facility on Elmendorf Air Force Base, physical custody may remain with Fort Richardson although DRMO accepts accountability for the item (5).

Most solvents are disposed of by mixing with used oil or by containerizing in 55-gallon drums and turning in to DRMO. Improper segregation of wastes has been a problem in the past. Several cases of commingling of chlorinated solvents with waste oil have been reported.

Used oil is analyzed for heavy metals, total halogens, and flammability prior to disposal. Oil that meets specific criteria (total halogens < 1000 ppm, flash point > 100°F) is burned for energy recovery at Fort Wainwright. Oil that does not meet the criteria is disposed of as a hazardous waste (5).

Until 1987, solid wastes were placed in a solid waste landfill (SWMU #96 and #97) for disposal. In November 1987, the Municipality of Anchorage opened a regional landfill on land excessed by the Army, which will serve Fort Richardson until the year 2027.

Wastes generated at Fort Richardson are listed in Table 1. A 1988 inventory of federal hazardous waste activities listed the following hazardous wastes at Fort Richardson (9):

- 7,500 pounds and 1200 gallons of ignitable waste (EPA Hazardous Waste Number D001)
- 800 gallons of corrosive waste (EPA Hazardous Waste Number D002)
- 4,000 pounds of reactive waste (EPA Hazardous Waste Number D003)
- 2,000 pounds and 150 gallons of chromium-bearing wastes (EPA Hazardous Waste Number D007)
- 101,700 pounds of lead-bearing wastes (EPA Hazardous Waste Number D008)
- 1 gallon of arsenic-bearing wastes (EPA Hazardous Waste Number D004)
- 250 gallons of spent non-halogenated solvents (EPA Hazardous Waste Number F003 and F005)
- 8 gallons of toluene (EPA Hazardous Waste Number U220)

Table 1

HAZARDOUS WASTES/HAZARDOUS MATERIALS
GENERATED AT FORT RICHARDSON

<u>ITEM</u>	<u>DOT I.D. NO.</u>
Acetone	UN1090
Antifreeze	UN1142
Brake Fluid	UN1270
Chlorine Gas	UN1017
Cyclohexamine	UN2357
Denatured Alcohol	UN1986
Dry Cleaning Solvent	UN1993
Enamel Paint	UN1263
Ethylene Glycol	UN1188
Grease	UN1270
Helium	UN1046
Hydrochloric Acid	UN1789
Hydraulic Fluid	UN1270
Infectious Waste	UN2814
Kerosene	UN1223
Isopropyl Alcohol	UN1219
Lithium Batteries	UN1415
Magnesium Batteries	UN1479
Methanol	UN1230
Methyl Ethyl Ketone	UN1193
Methyl Methacrylate	UN1247
Mineral Spirits	UN1263
Morpholine	UN2054
Naptha	UN2553
Oil	UN1270
Organic Peroxide	UN1993
Paint Thinner	UN1263
Perchlorethylene	UN1897
Petroleum Ether	UN1271
Polyester Resin	UN1866
Potassium Hydroxide	UN1814
Sodium Hydroxide	UN1823
Sulfuric Acid	UN1830
Tetrapotassium Pyrophosphate	UN1760
Transmission Fluid	UN1270
Trioxane	UN1325
Turpentine	UN1299

This inventory also indicated that releases of hazardous waste to soil and ground water have occurred at Fort Richardson (9). Additional RCRA hazardous wastes that have been manifested from Fort Richardson during the past two years (according to manifests submitted to the Alaska Department of Environmental Conservation between October 1987 and June 1989) and their EPA hazardous waste numbers include barium-bearing wastes (D005), cadmium-bearing wastes (D006), mercury-bearing wastes (D009), silver-bearing wastes (D011), spent halogenated solvents (F001 and F002), Warfarin (P001), aluminum phosphide (P006), calcium cyanide (P021), epinephrine (P042), methanol (U154), and ethylene glycol monoethyl ether (U359) (24).

2.3 REGULATORY HISTORY

In November 1980, Fort Richardson filed a Notification of Hazardous Waste Activity as a generator, transporter, and treatment, storage, and disposal (TSD) facility. Also in November 1980, Fort Richardson submitted a RCRA Part A permit application as a hazardous waste generator and operator of a hazardous waste storage facility. The Part A application contained many errors and improper listings; it was revised and resubmitted in June 1983. The facility is currently operating under interim status. A RCRA Part B permit application was submitted in November 1988 for the hazardous waste storage area (Buildings 45125 and 45133) and for a proposed open burning/open detonation area; a Notice of Deficiency was issued by the Alaska DEC in May 1989.

RCRA inspections have been conducted at Fort Richardson in March 1982, September 1983, June 1985, June 1986, April 1987, and June 1989. Two Notices of Violation have been issued by the Alaska DEC, one in October 1982 and the other in July 1987. Violations noted included inadequate identification of hazardous wastes, inadequate accumulation management, improper labeling, failure to keep containers closed, inadequate listing of accumulation dates on containers, an incomplete Part A application, and problems with manifests, recordkeeping, and contingency plans (13, 16, 21).

A Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Preliminary Assessment/Site Inspection was conducted in October 1983. Remedial investigation activities have been initiated at several sites within Fort Richardson, including the former landfill (SWMU #94), the former fire training areas (SWMUs #97 and #98), and the Roosevelt Road Transmitter Site (potential SWMU #118).

2.4 IDENTIFICATION OF SOLID WASTE MANAGEMENT UNITS

During the course of this assessment, 116 solid waste management units (SWMUs) and four potential SWMUs were identified and characterized. These are listed in Table 2. Locations of the solid waste management units are shown in Figure 3 and 4.

Table 2

SOLID WASTE MANAGEMENT UNITS
FORT RICHARDSON, ALASKA

<u>SWMU #</u>	<u>DESCRIPTION</u>
1	Waste Accumulation Area Near Bldg. 700
2	Paint Spray Booth in Bldg. 700
3	Waste Accumulation Area Near Bldg. 704
4	DEH Drum Storage Yard Near Bldg. 704
5	Wash Rack Sump in Bldg. 704
6	Oil/Water Separator Near Bldg. 704
7	Waste Accumulation Area Near Bldg. 710
8	Pesticide Mixing Area Sump in Bldg. 721
9	Waste Accumulation Area Near Bldg. 726
10	Distillation Unit #1 in Bldg. 726
11	Distillation Unit #2 in Bldg. 726
12	Distillation Unit #3 in Bldg. 726
13	Aeration Box in Bldg. 726
14	Vapor Reclamation Unit in Bldg. 726
15	Former Soil Aeration Area Near Bldg. 726
16	Underground Waste Oil Storage Tank Near Bldg. 732
17	Waste Accumulation Area Near Bldg. 740
18	Oil/Water Separator Near Bldg. 740
19	Underground Waste Oil Tank Near Bldg. 740
20	Waste Accumulation Area Near Bldg. 750
21	Oil/Water Separator #1 Near Bldg. 750
22	Oil/Water Separator #2 Near Bldg. 750
23	Underground Waste Oil Tank #1 Near Bldg. 750
24	Underground Waste Oil Tank #2 Near Bldg. 750
25	Oil/Water Separator Near Bldg. 754
26	Underground Waste Oil Tank Near Bldg. 755
27	Paint Spray Booth in Bldg. 755
28	Oil/Water Separator Near Bldg. 756
29	Underground Waste Oil Tank Near Bldg. 756
30	Underground Used Oil Tank Near Bldg. 770
31	Oil/Water Separator Near Bldg. 778
32	Oil/Water Separator Near Bldg. 784
33	Waste Accumulation Area Near Bldg. 796
34	Sumps and Wash Rack in Bldg. 796
35	Underground Used Oil Tank Near Bldg. 796
36	Paint Spray Booth in Bldg. 796
37	Former Underground Neutralization Tank Near Bldg. 796
38	Underground Used Oil Tank #1 Near Bldg. 798
39	Underground Used Oil Tank #2 Near Bldg. 798
40	Oil/Water Separator Near Bldg. 812

Table 2 (Continued)

SOLID WASTE MANAGEMENT UNITS
FORT RICHARDSON, ALASKA

<u>SWMU #</u>	<u>DESCRIPTION</u>
41	Used Oil Transfer Area at Bldg. 955
42	Underground Waste Oil Tank Near Bldg. 955
43	Underground Slop Fuel Tank Near Bldg. 955
44	Waste Accumulation Areas Near Bldg. 974
45	Waste Solvent Accumulation Area Near Bldg. 974
46	Fuel Blivet Cleaning Area Near Bldg. 974
47	Oil/Water Separator at Fuel Blivet Cleaning Area
48	Underground Waste Oil Tank Near Bldg. 974
49	Oil/Water Separator Near Bldg. 974
50	Wash Rack Sump in Bldg. 975
51	Oil/Water Separator #1 Near Bldg. 975
52	Oil/Water Separator #2 Near Bldg. 975
53	Underground Waste Oil Storage Tank Near Bldg. 975
54	Waste Accumulation Area Near Bldg. 976
55	Paint Spray Booth in Bldg. 976
56	Former Acid Bath/Neutralization Tank in Bldg. 976
57	Fiberglass Filter in Bldg. 976
58	Silver Recovery Unit in Bldg. 978
59	Paint Spray Booth in Bldg. 978
60	Waste Accumulation Area Near Bldg. 986
61	Underground Waste Fuel Tank Near Bldg. 986
62	Waste Accumulation Area Near Bldg. 36012
63	Underground Waste Oil Storage Tank Near Bldg. 45590
64	Waste Accumulation Area Near Bldg. 45726
65	Oil/Water Separator Near Bldg. 45726
66	Underground Waste Oil Tank Near Bldg. 45726
67	Waste Accumulation Area Near Bldg. 47431
68	Underground Waste Oil Storage Tank Near Bldg. 47641
69	Underground Waste Oil Storage Tank Near Bldg. 57112
70	Waste Oil Storage Tank - Camp Carroll
71	Waste Accumulation Area Near Bldg. 732
72	Waste Accumulation Area Near Bldg. 755
73	Waste Accumulation Area Near Bldg. 756
74	Waste Accumulation Area Near Bldg. 760
75	Waste Accumulation Area Near Bldg. 770
76	Waste Accumulation Area Near Bldg. 778
77	Waste Accumulation Area Near Bldg. 784
78	Waste Accumulation Area Near Bldg. 789
79	Waste Accumulation Area Near Bldg. 798
80	Waste Accumulation Area Near Bldg. 812

Table 2 (Continued)

SOLID WASTE MANAGEMENT UNITS
FORT RICHARDSON, ALASKA

<u>SWMU #</u>	<u>DESCRIPTION</u>
81	Waste Accumulation Area Near Bldg. 27006
82	Waste Accumulation Area Near Bldg. 45040
83	Waste Accumulation Area Near Bldg. 45590
84	Waste Accumulation Area Near Bldg. 47641
85	Waste Accumulation Area Near Bldg. 47432
86	Waste Accumulation Area Near Bldg. 47727
87	Waste Accumulation Area at Camp Carroll
88	Hazardous Waste Storage Area at Bldg. 45125
89	Hazardous Waste Storage Area at Bldg. 45133
90	Emergency Hazardous Waste Storage Area at Bldg. 35752
91	Transformer/Capacitor Storage Area Near Bldg. 700
92	Grease Pit #1
93	Grease Pit #2
94	Former Landfill Area
95	"Current" Landfill
96	Transfer Station
97	Former Fire Training Area #1
98	Former Fire Training Area #2
99	Former OB/OD Area
100	Open Burning Sites at Firing Points
101	Popping Furnace
102	Pathological Incinerator
103	Classified Waste Incinerator
104	Multiclone Precipitator #1
105	Multiclone Precipitator #2
106	Multiclone Precipitator #3
107	Multiclone Precipitator #4
108	Ash Hoppers
109	Air Wash Unit #1
110	Air Wash Unit #2
111	Sludge Tank #1
112	Sludge Tank #2
113	Cyclone Separator #1
114	Cyclone Separator #2
115	Storm Drainage System
116	Sanitary Sewer System

POTENTIAL SOLID WASTE MANAGEMENT UNITS

117	Eagle River Flats Artillery Range
118	Roosevelt Road Transmitter Site
119	Leaking Underground Storage Tanks
120	Former Underground Storage Tank Near Building 726

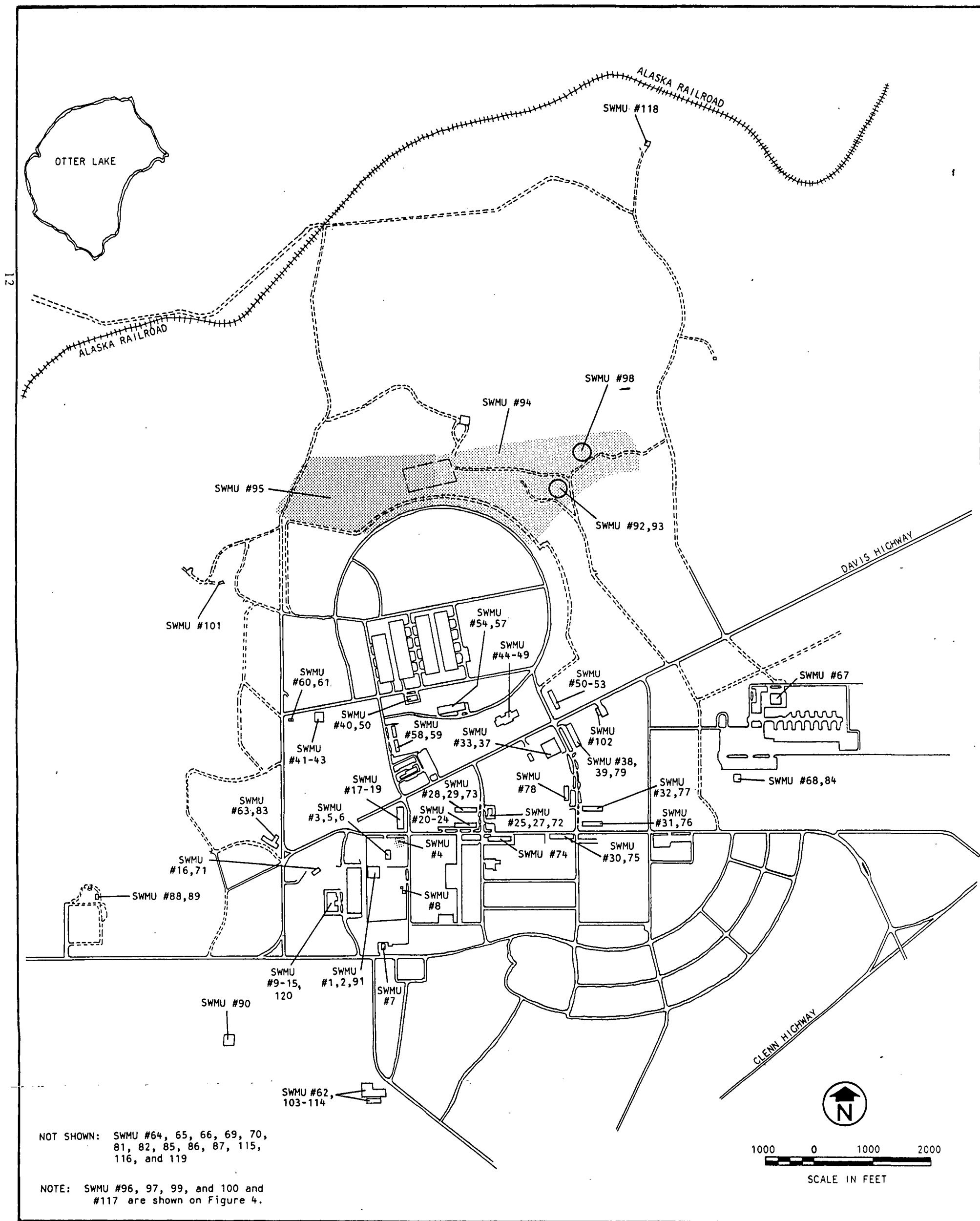


Figure 3

SOLID WASTE MANAGEMENT UNITS AT FORT RICHARDSON, MAIN CANTONMENT AREA

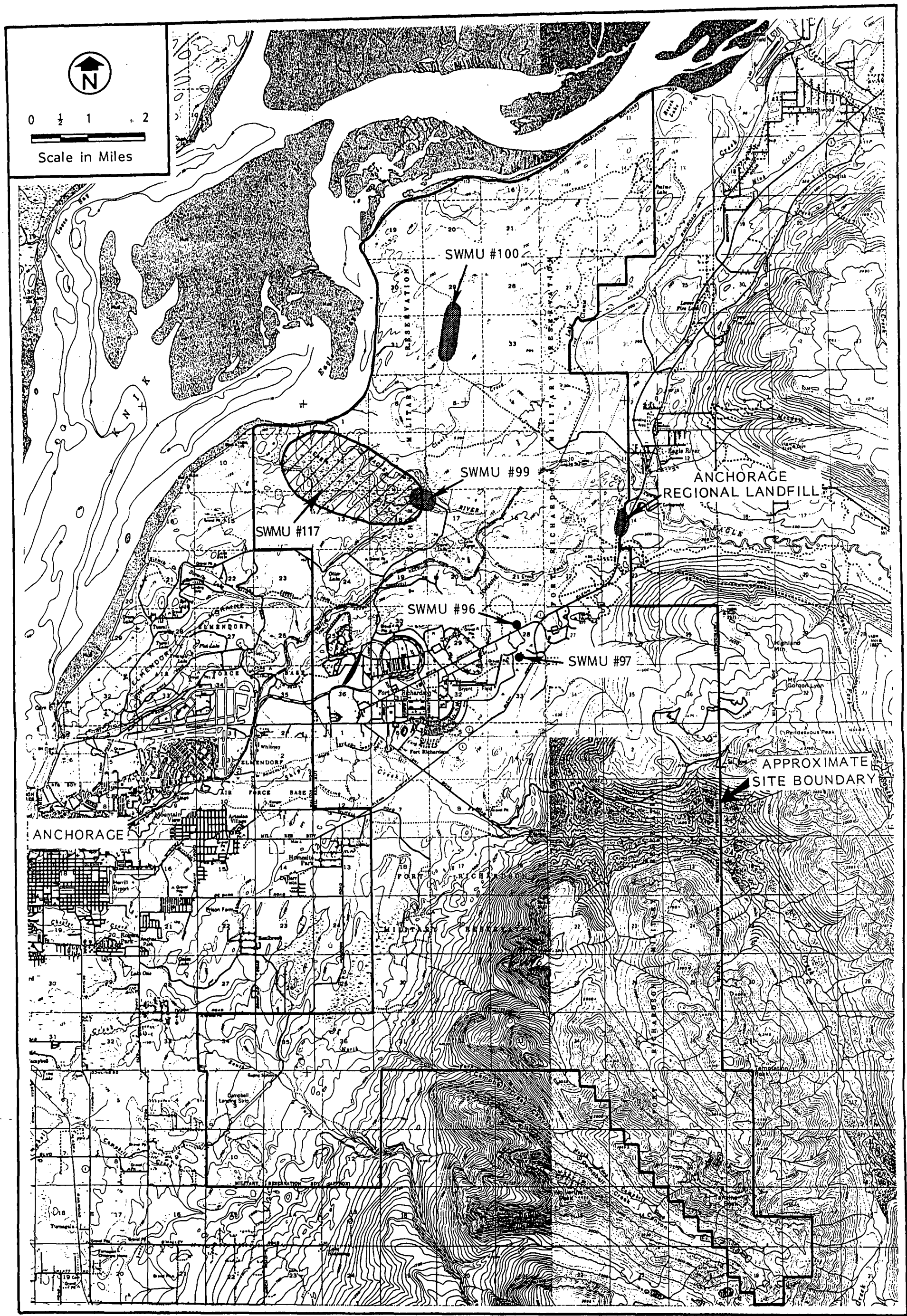


Figure 4

SOLID WASTE MANAGEMENT UNITS AT FORT RICHARDSON, OUTLYING AREAS
Source: Reference 4

3.0 ENVIRONMENTAL SETTING

3.1 METEOROLOGY

The mean annual temperature at Fort Richardson is 35°F, and mean monthly temperatures range from a low of -52°F in January to 58°F in July (3). The mean annual total precipitation is 16 inches, which includes a mean annual snowfall of 70 inches (10). Almost half of the precipitation occurs during July, August, and September. The driest period is January through May.

Prevailing airflow is from the south. However, northerly winds may result during September through April at lower elevations. Mean wind speeds range from 8.5 to 12.1 feet per second. Greatly accelerated wind speeds can result from localized channeling by topographic features (e.g. stream valleys) (3).

3.2 TOPOGRAPHY

Most of the Fort Richardson facility lies less than 490 feet above sea level and has a local relief of 49 to 246 feet. The central and northern sections of the facility are flat to gently rolling, wooded, and contain numerous streams, creeks, and ponds.

3.3 SURFACE WATER

Surface waters near Fort Richardson include Ship Creek, Eagle River, Cook Inlet (Pacific Ocean), and a variety of small lakes and streams. The primary surface drainage features are Eagle River and Ship Creek, both of which flow westerly across Fort Richardson into the Knik Arm of Cook Inlet (Figure 2). An impoundment on Ship Creek provides domestic water for both Fort Richardson and Anchorage. Otter Lake is the largest pond onsite and is used for recreational purposes.

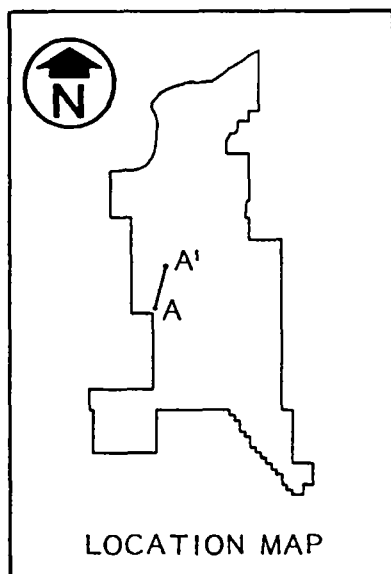
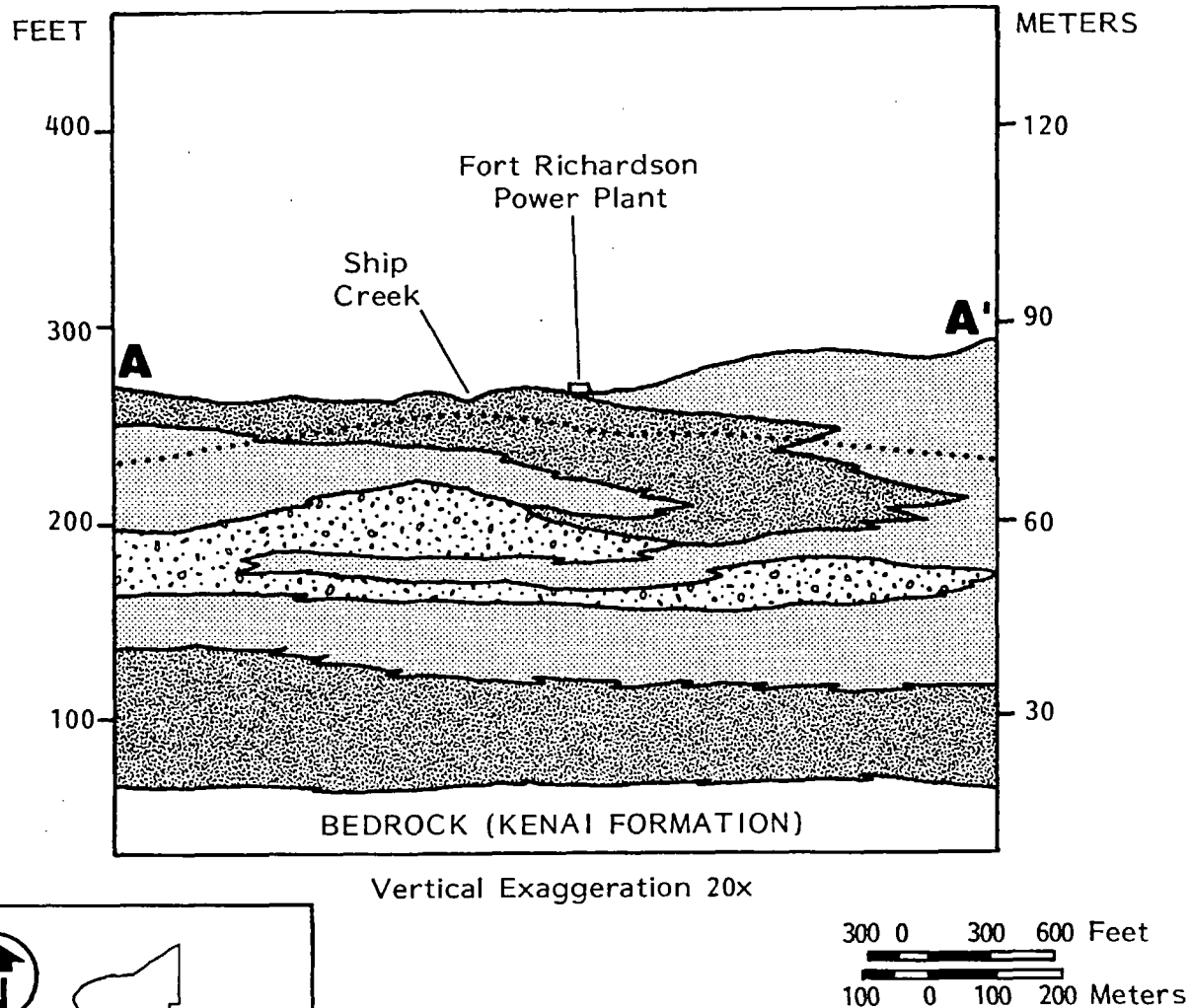
Wetlands are located primarily on the northern portions of the facility. The largest and ecologically most important tidal marsh (Eagle River Flats) is located along the lower section of the Eagle River at Eagle Bay.

Storm water is controlled by a system of ditches and swales. The stormwater system discharges to surface water (Ship Creek) and ground water through percolation. Wash water from vehicle wash racks discharges to the stormwater system. Storm waters which do not infiltrate into the soil enter Ship Creek at points below the water supply reservoir.

A 30 million gallon impoundment on Ship Creek provides a high-quality drinking water supply for Fort Richardson, Elmendorf Air Force Base, and the city of Anchorage. The impoundment is comprised of water from snowmelt and runoff in a relatively protected watershed, and remains pure throughout the year (3).

3.4 GEOLOGY AND HYDROGEOLOGY

Figure 5 presents a general geologic profile of the Ship Creek Valley near the Fort Richardson Power Plant. Most of the facility is underlain by Wisconsin Age till, outwash, and silt, and alluvial fan deposits of Pleistocene to Recent Age. The metamorphic rocks of the Kenai Formation underlie the glacial and alluvial materials and outcrop in the southeastern part of the installation (2).



KEY




-  Permeable Water-Bearing Zone
-  Semi-Permeable Zone (functions as a confining unit in some places and as a water-bearing unit in others)
-  Confining Zone (generally impermeable - functions as a ground water barrier)
- Water Table (may be under pressure where shallow aquifer is semi-confined)

Figure 5

GENERAL GEOLOGIC PROFILE OF THE SHIP CREEK VALLEY

Source: Reference 4

Rockland soil and Rockland loam represent the two major soil types at Fort Richardson. The Rockland soil, a rocky cobbly material, comprises from 80 to 100 percent of the soil association in which it occurs. The other soil types associated with the Rockland soil include poorly to well-drained, very gravelly material. The Rockland loam is dominant in the southern portion of the facility; it is a well-drained shallow composition of silt loam and peat overlying gravelly or sandy loam. This loamy soil comprises approximately 60 percent of the soil association in which it occurs, with fibrous peat and silty soils comprising the remaining portion.

The Chugach Mountains and Ship Creek are considered to be the major sources of recharge for the confined ground water system at Anchorage, Elmendorf Air Force Base, and Fort Richardson. Ship Creek recharges the ground water system near the mountains on Fort Richardson, and recharge by ground water to Ship Creek occurs off the facility near Knik Arm. Depth to ground water on Fort Richardson is approximately 6.8 meters (22.3 feet) below the land surface (3). Ground water is generally available along stream beds, and becomes less available as the distance from the stream increases. Ground water flow is generally from the Chugach Mountains toward the Knik Arm. The city of Anchorage has created a significant cone of depression in the potentiometric surface, which fluctuates with the pumping rate (3).

3.5 GROUND WATER MONITORING

Six wells are located on Fort Richardson, and the Nike well (Site Summit) is just to the east of the site boundary (see Figure 6). Three of the wells located south of Ship Creek are reportedly used to augment the water supply system (a reservoir located on Ship Creek) when Ship Creek flows are inadequate. The well at Range Central is abandoned and capped. The remaining three wells are not generally in use but remain available. Subsurface water quality data are available for the three wells located south of Ship Creek; analyses were limited to metals and conventional pollutants, and metal concentrations were generally below detection limits.

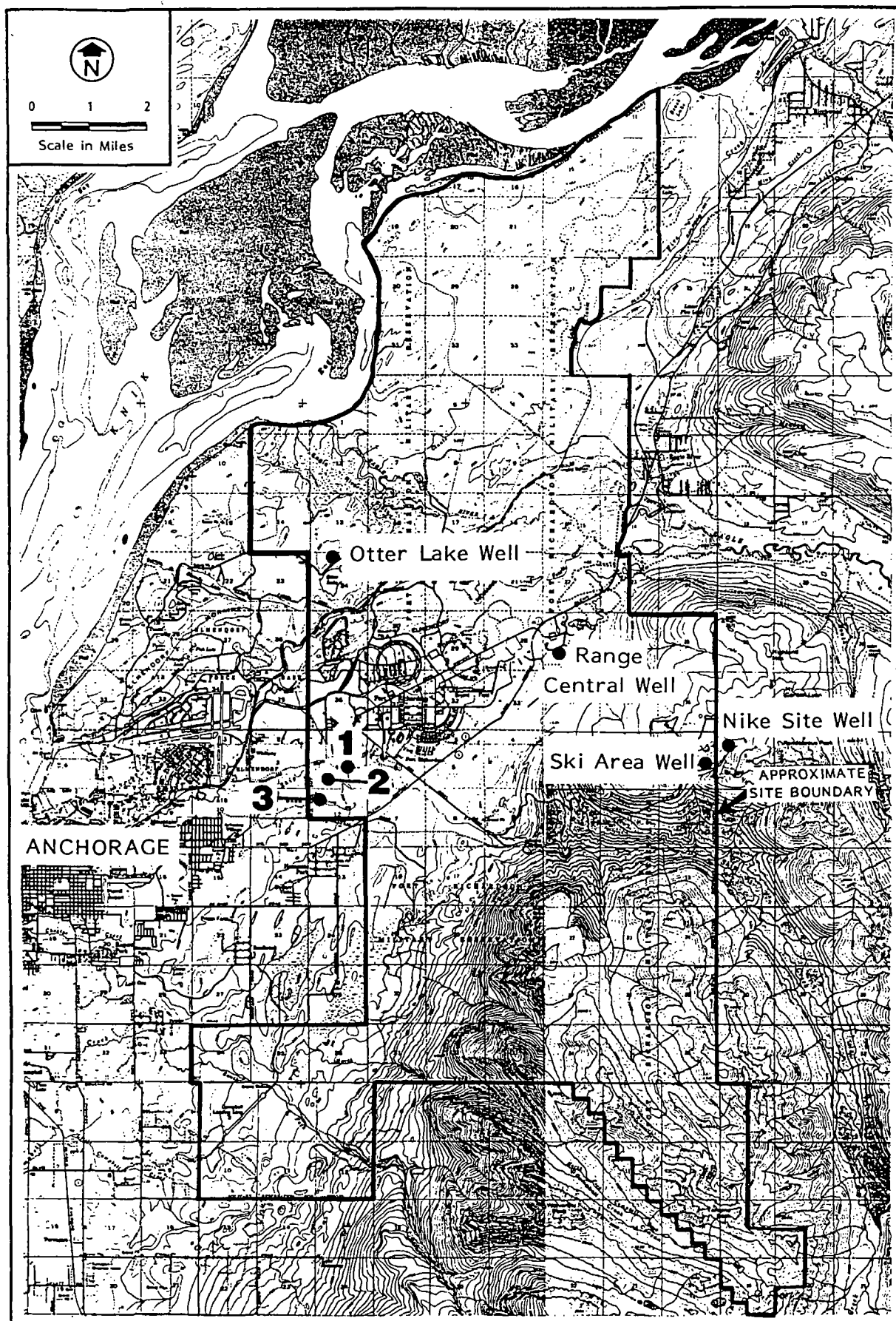


Figure 6

GROUND WATER WELLS AT FORT RICHARDSON
Source: Reference 4

4.0 DESCRIPTIONS OF INDIVIDUAL UNITS

4.1 SWMU #1 - WASTE ACCUMULATION AREA NEAR BLDG. 700

Photo: None

Location: Figure 3

4.1.1 Information Summary

Unit Description: This unit is a waste accumulation area located outside Bldg. 700, the DEH Recurring Maintenance building and the DEH Paint Shop. Activities conducted in this building include parts cleaning and spray painting (3). Wastes generated during the above operations are accumulated in this unit prior to offsite disposal or transport to the hazardous waste storage area (SWMU #88). This unit was not observed during the VSI, but is believed to be constructed in a fashion similar to other waste accumulation areas on the post. These areas are generally unpaved and uncovered, with waste drums situated on pallets.

Dates of Operation: Construction of the main cantonment area of Fort Richardson was completed in 1956. Most buildings and activities at the post date to this time. The dates of operation of this particular unit are unknown, but it has probably been in place for the last ten years. It is currently active.

Wastes Managed: Hazardous and other wastes generated in this building include hydrochloric acid, denatured alcohol, enamel paint, methyl ethyl ketone, and mineral spirits (5). These materials as well as waste oil and grease may be accumulated in this unit.

Release Controls: No information on release controls was available. Assuming that this waste accumulation area is similar to the many others at Fort Richardson, drums are located on pallets to facilitate detection of leaks and spills. No other release controls are generally present.

History of Releases: No information on the history of releases from this unit was available.

4.1.2 Conclusions

This unit is located about one mile from Ship Creek (the closest surface water body), therefore there is a low potential for releases to surface water. Although this unit was not observed during the VSI and no information on past releases was available, the potential for releases to soil is believed to be high. This unit has no release controls to prevent spills and drips from contaminating the surrounding soil. Ground water is located about 20 feet below the ground surface, therefore the potential for transport of contaminants through the soil column to ground water is judged to be moderate. The potential for releases to air is low; drums are generally stored closed. There is little potential for subsurface gas generation at this site.

4.2 SWMU #2 - PAINT SPRAY BOOTH IN BLDG. 700

Photo: 8

Location: Figure 3

4.2.1 Information Summary

Unit Description: This unit is a dry filter-type paint spray booth located on the third floor of Bldg. 700. The booth is about 20 feet by 20 feet in size and is used for painting small equipment. The doors of the paint spray booth contain filters to capture paint fumes. The filters are replaced periodically and disposed of in the Anchorage municipal landfill.

Dates of Operation: This unit is currently active. The date it began operations is unknown but is believed to be in the late 1950's when this building was constructed.

Wastes Managed: The filters in the paint spray booth collect waste paint. Paints used are primarily enamel-type paints; no Chemical Agent Resistant Coating (CARC) paint is used in this unit.

Release Controls: The paint spray booth is located inside Bldg. 700. The filters serve to control air releases from the paint spray booth.

History of Releases: No releases are known.

4.2.2 Conclusions

Since this unit is located indoors, on the third floor of Bldg. 700, releases to soil, surface water, or ground water are considered unlikely. Releases to air are also judged to be low since the paint spray booth filters serve to capture any air releases. There is no potential for subsurface gas generation.

4.3 SWMU #3 - WASTE ACCUMULATION AREA NEAR BLDG. 704

Photo: 4, 5

Location: Figure 3

4.3.1 Information Summary

Unit Description: This unit is a waste accumulation area located near the northeast corner of Bldg. 704, the DEH Vehicle Storage building. The waste accumulation area is unpaved and uncovered, and consists of waste drums on pallets. At the time of the VSI, one drum was not properly sealed and contained a large funnel. The pallets were in poor condition and the drums were not properly labeled (1).

Dates of Operation: This unit is currently active. The date it began operation is unknown, but it appears to have been active for several years.

Wastes Managed: Wastes generated in this building include hydraulic fluid, methanol, used solvent, and used oil. At the time of the VSI, at least one drum contained used solvent.

Release Controls: Drums are sitting on pallets. No other release controls are present.

History of Releases: During the VSI, extensive soil staining was observed around and under the drums. In addition, wood and stained cloth debris were scattered around the area.

4.3.2 Conclusions

The potential for releases to soil is high at this unit. Extensive soil staining was observed during the VSI. Although the quantity of waste materials released to the soil is not known, there appeared to be enough contamination to make the potential for releases to ground water moderate to high. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is a low potential for subsurface gas generation.

4.4 SWMU #4 - DEH DRUM STORAGE YARD NEAR BLDG. 704

Photo: 6, 7

Location: Figure 3

4.4.1 Information Summary

Unit Description: This unit is used for storage of hazardous materials and materials awaiting recycling (2). It is located northeast of Bldg. 704. At the time of the VSI, about 158 drums were present in this unit (1). Some drums were on pallets, others on their sides on the unpaved ground surface. Some drums were rusted; many had no bungs or were uncovered. A distinct odor was observed in the vicinity of this unit (1). Many drums were unlabeled, with water pooling on the tops of the drums. Some of the liquid present in these drums may be rainwater, since the area is uncovered.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: The waste drums contained contaminated fuels, waste paint, brake fluid, lubricating oil, JP-4 fuel, ballast water, and other flammable liquids. Other waste materials that may be stored in this unit include waste solvents, paints, asbestos, and other materials.

Release Controls: This unit operates without release controls. The ground surface is unpaved and consists of large gravel. The area is fenced and uncovered. The ground surface slopes toward the southwest (toward Bldg. 704).

History of Releases: Dark staining of soil was observed near the waste drums during the VSI (1).

4.4.2 Conclusions

Since there are no release controls, and since soil staining was observed during the VSI, the potential for releases to soil is judged to be high. Since ground water is relatively near the surface (about 20 feet below the land surface), the potential for releases to ground water is moderate. A noticeable odor of fuel was present during the VSI, therefore the potential for releases to air is high.

Some of the drums were not covered properly, which probably accounted for the odor. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). The potential for subsurface gas generation is low.

4.5 SWMU #5 - WASH RACK SUMP IN BLDG. 704

Photo: 1

Location: Figure 3

4.5.1 Information Summary

Unit Description: This unit is located at the vehicle wash rack to the east of Bldg. 704. The sump is a concrete pit about 3 feet by 10 feet and 1 foot deep. It is covered with a metal grate. At the time of the VSI, the sump was almost filled with oily liquid (1). The sump is pumped to the oil/water separator (SWMU #6) as needed.

Dates of Operations: This unit is currently active. The date it began operation is unknown but it appears to have been in operation for several years.

Wastes Managed: This unit collects washwater containing oil, grease, and dirt.

Release Controls: This unit operates without release controls.

History of Releases: No information on the history of releases at this unit was available. No releases were observed during the VSI.

4.5.2 Conclusions

The wash rack sump appeared to be in reasonably good condition during the VSI. Assuming it is pumped to the oil/water separator (SWMU #6) prior to overfilling, the potential for releases to soil, surface water, and ground water is low. Air releases from this unit are judged to be minimal. There is no potential for subsurface gas generation.

4.6 SWMU #6 - OIL/WATER SEPARATOR NEAR BLDG. 704

Photo: 2, 3

Location: Figure 3

4.6.1 Information Summary

Unit Description: This unit is a covered concrete box, about 3 feet by 3 feet in size and appearing to be about 5 feet deep. It is located about 10 feet from the wash rack sump (SWMU #5). A grit separator is located in the center of the unit; the grit separator is about 2 feet by 2 feet in size (1). Washwater from the wash rack sump (SWMU #5) and from floor drains in Bldg. 704 drain or are pumped to this unit. Oil is removed annually; it is tested for contaminants, then disposed of. Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit collects washwaters containing oil, grease, fuel, and other materials that may be drain to the wash rack sump or to the floor drains.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2). The sump was observed to be almost full during the VSI (1).

4.6.2 Conclusions

Since this unit appeared to be in relatively good condition at the time of the VSI, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.7 SWMU #7 - WASTE ACCUMULATION AREA NEAR BLDG. 710

Photo: None

Location: Figure 3

4.7.1 Information Summary

Unit Description: This unit is a small waste accumulation area located in a shed behind Bldg. 710, the AAFES PX gas station (6). Drums of used oil are stored in the shed; they are transferred to DRMO "occasionally." (1) The gas station is operated by a contractor to the Army.

Dates of Operation: This unit is currently active. The date it began operations is unknown.

Wastes Managed: This unit is used to store waste oil.

Release Controls: The drums are stored inside a shed. No other information on release controls was available, as the shed was locked at the time of the VSI.

History of Releases: No information on releases from this unit was available.

4.7.2 Conclusions

Although the VSI team was unable to look inside the shed during the VSI, the potential for releases to soil, ground water, and surface water is believed to be low primarily because of the release control provided by the shed. The potential for releases to the atmosphere is low; waste oil is not particularly volatile. There is no potential for subsurface gas generation.

4.8 SWMU #8 - PESTICIDE MIXING AREA SUMP IN BLDG. 721

Photo: 12, 13, 14

Location: Figure 3

4.8.1 Information Summary

Unit Description: The pesticide mixing area is located inside Bldg. 721. Pesticides are diluted and placed in containers for spraying inside a small stainless steel spill pan. Any spills in the mixing area would drain to a sump in the next room. The sump drains to the storm sewer, but the discharge pipe is normally valved closed to prevent release of spills. The sump is about 2.5 feet wide by 2 feet long and about 3 feet deep. According to facility personnel, there has never been a spill at this unit (1). Trucks are filled outside Bldg. 721; this area is unpaved. Reportedly, Bldgs. 719 (which has been replaced by Bldg. 721), and 701 (SWMU #9) were used for pesticide storage and mixing in the past.

Dates of Operation: This unit has been in operation since 1986.

Wastes Managed: Pesticides and herbicides mixed in this area include malathion, Dursban, boric acid, weed killers such as Roundup, 2,4-D, and Dithane M-45.

Release Controls: During mixing of pesticides, a small stainless steel spill pan is used. Spills would drain to the sump described above and would be pumped out into drums for disposal. Outside of Bldg. 721, the flow direction of spills would be highly variable depending on the location, quantity spilled, and weather. A storm drain is located about 100 feet north of the building; the yard around Bldg. 721 is not bermed. About 75 percent of the yard slopes toward this storm drain (2).

History of Releases: No releases have occurred inside Bldg. 721. During the VSI, no evidence of staining or odors was observed outside Bldg. 721 at the truck filling area. Releases may have occurred as a result of earlier activities in this general area, but no documentation of releases was found.

4.8.2 Conclusions

The potential for environmental releases from this unit is low. The only area where releases to soil could occur is the truck filling area; no evidence of such releases was observed during the VSI or reported in the documents reviewed for this RFA.

4.9 SWMU #9 - WASTE ACCUMULATION AREA NEAR BLDG. 726

Photo: 16

Location: Figure 3

4.9.1 Information Summary

Unit Description: This unit is a small waste accumulation area behind Bldg. 726, the post laundry facility. At the time of the VSI, it contained four unlabeled drums that, according to facility personnel, contained residue from

an underground tank (AOC #4) which had been excavated. The ground surface is paved with asphalt. No bungs were present on the drums.

Dates of Operation: This unit is currently active. The date it began operation is unknown but may have been at the time the laundry facility was constructed (1956).

Wastes Managed: At the time of the VSI, the drums reportedly contained petroleum solvent. No other information on wastes managed was available.

Release Controls: The ground surface is paved. No other release controls are present.

History of Releases: No information on releases from this unit was available. No evidence of releases was observed during the VSI.

4.9.2 Conclusions

Due to the distance (about one mile) to the nearest surface water, the potential for releases to surface water is low. Since the area under the drums is paved, the potential for releases to soil or ground water is also judged to be low. Since the drums are normally closed, there is little potential for air releases. There is no potential for subsurface gas generation.

4.10 SWMU #10, #11, and #12 - DISTILLATION UNITS #1, #2, AND #3 IN BLDG. 726

Photo: 17

Location: Figure 3

4.10.1 Information Summary

Unit Description: The laundry facility is used for drycleaning of clothing from throughout the post. Perchloroethylene (1,1,2,2-tetrachloroethylene) is used as a drycleaning solvent. Garments are rotated in a tumble-type washer containing the solvent. Solvent is drained from the tumbler and is passed through the distillation unit numbers 1, 2, and 3 (SWMUs #10 through #12). There is one unit for each tumbler. The dirty solvent is passed through diatomaceous earth and activated carbon to remove as much of the fugitive dyes and insoluble soils as possible. Additional soils are removed from the solvent by distillation. This solvent is then reused in the drycleaning process. Any solvent remaining in the garments is removed in the heated dryers. The diatomaceous earth and activated carbon are periodically removed and placed in the aeration box (SWMU #14).

Each still has a capacity of 100 gallons of solvent every three hours. In practice, however, they are operated at much lower levels. The units are made of steel and are approximately 20 feet high.

Dates of Operation: The laundry facility was built in 1956 and is currently active (1).

Wastes Managed: The stills treat dirty dry cleaning solvent (perchloroethylene or 1,1,2,2-tetrachloroethylene).

Release Controls: The distillation units have no secondary containment. The entire facility, however, is enclosed within Bldg. 726. Spills are mopped up with rags, which are then dried.

History of Releases: Reportedly there has been one spill in the past nine years. The drycleaning room, however, had a very strong odor of solvent.

4.10.2 Conclusions

Since these units are located inside Bldg. 726, the potential for releases to soil, surface water, and ground water is low. Air releases are occurring, however it is unclear whether these releases are coming from the tumblers, the distillation units, or the dryers. The smell of dry cleaning solvent was strong enough to indicate a potential Occupational Safety and Health Administration (OSHA) concern. The drycleaning room has poor ventilation; during the VSI, inadequate ventilation was provided by using large fans and opening the back door. Therefore, the potential for releases to air is high. The potential for exposure of workers via inhalation is also high. There is no potential for subsurface gas generation.

4.11 SWMU #13 - AERATION BOX IN BLDG. 726

Photo: None

Location: Figure 3

4.11.1 Information Summary

Unit Description: This unit is located inside Bldg. 726, the post laundry facility. It is used for aeration of contaminated diatomaceous earth and activated carbon collected from the distillation units (SWMUs #10 through #12). The box is about 3 feet by 8 feet in size and about 1 foot deep. It is constructed of steel. About 50 pounds per month of dry waste material is placed in this unit. The aeration box is located near the entry door to Bldg. 726; this door generally remains open in the summer months. After aeration, the material in the box is placed in a dumpster for disposal at the municipal landfill.

Dates of Operation: The laundry facility was built in 1956; it is believed that an aeration box similar to this one has probably been in place since that time.

Wastes Managed: This unit is used to treat diatomaceous earth and activated carbon contaminated with solvent (1,1,2,2-tetrachloroethylene), dyes, and oil and grease.

Release Controls: The box is located inside Bldg. 726. No other release controls were observed.

History of Releases: No releases from this unit have been documented.

4.11.2 Conclusions

This unit is located inside Bldg. 726, therefore the potential for releases to soil, ground water, or surface water is low. Since the purpose of this unit is aeration of solvent-contaminated diatomaceous earth and carbon, there is a potential for releases of 1,1,2,2-tetrachloroethylene to air. This potential

is judged to be moderate because most solvent is probably removed in the distillation units. There is no potential for subsurface gas generation.

4.12 SWMU #14 - VAPOR RECLAMATION UNIT IN BLDG. 726

Photo: None

Location: Figure 3

4.12.1 Information Summary

Unit Description: The laundry facility contains a vapor reclamation unit which is used to reclaim solvent from fumes generated by the drycleaning equipment. Fumes are passed through large ducts to this unit, where they pass through pellets to separate out the solvent. The solvent is then cooked off and returned to the tumblers. About 5 to 10 gallons of solvent per day are reclaimed in this manner. The pellets have never been replaced (1).

For every 100 gallons of solvent used in the laundry facility, 8 gallons of makeup solvent is required (1). Some solvent exists in the form of vapor in the building (during the VSI, the air smelled heavily of solvent), however the building has no vents.

Dates of Operation: The laundry facility was built in 1956. This unit has probably been in place since that time.

Wastes Managed: This unit is used to reclaim 1,1,2,2-tetrachloroethylene.

Release Controls: This unit is located inside Bldg. 726. No other release controls were observed.

History of Releases: No releases from this unit are known.

4.12.2 Conclusions

Since this unit is located inside Bldg. 726, the potential for releases to soil, ground water, or surface water is low. As discussed for SWMUs #10 through #12 above, the air quality inside Bldg. 726 appears to be an issue of concern. Releases are ongoing, but the source of the releases is unknown. There is no potential for subsurface gas generation.

4.13 SWMU #15 - FORMER SOIL AERATION AREA NEAR BLDG. 726

Photo: 15

Location: Figure 3

4.13.1 Information Summary

Unit Description: This unit is located behind Bldg. 726. During removal of an underground petroleum solvent tank (AOC #4), contaminated soil was removed and was placed on the ground surface for aeration. The ground surface is paved. The quantity of soil aerated is unknown.

Dates of Operation: The unit was operated for one summer. The year in which this occurred is unknown but is believed to be fairly recent (within the last five years).

Wastes Managed: Soils contaminated with petroleum solvent used at the post laundry facility were aerated in this unit. At the time of excavation, an HNu organic vapor detector was used to obtain a general idea of the level of organics contamination of the soil. The HNu indicated no organics volatilizing from the surface of the soil. No other soil samples were collected.

Release Controls: The ground surface is believed to have been paved at the time of aeration. The soil may have been placed on a plastic sheet. No other information on release controls was available.

History of Releases: No information on the history of releases was available. No evidence of releases was observed during the VSI.

4.13.2 Conclusions

Without knowing the quantity of soil aerated, the condition of the ground surface (paved or unpaved), and the nature of release controls used (plastic sheeting), there is insufficient information to assess the potential for releases to soil or ground water. Some releases to air probably occurred, however, since this unit is no longer present, these releases are not ongoing. Due to the distance to the nearest surface water body (about one mile), there is a low potential for releases to surface water. The potential for subsurface gas generation is judged to be low.

4.14 SWMU #16 - UNDERGROUND WASTE OIL STORAGE TANK NEAR BLDG. 732

Photo: None

Location: Figure 3

4.14.1 Information Summary

Unit Description: This unit is a 600-gallon steel underground tank used for storage of used oil generated by the 813th Engineers motor pool located in Bldg. 732. The tank is pumped out periodically. The oil in the tank is tested; if it meets specified criteria for halogen concentration and flammability, it is transferred to the used oil transfer area (SWMU #41) for shipment by rail to Fort Wainwright where it is burned for energy recovery. If it does not meet the specified criteria, the used oil is disposed of as a hazardous waste.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit is used to store used oil and used oil contaminated with solvents.

Release Controls: No information on release controls was available.

History of Releases: Testing performed in the summer of 1987 indicated that this tank was leaking (2). Fort Richardson personnel plan to remove all leaking underground storage tanks in the near future.

4.14.2 Conclusions

Since this tank was tested and found to be leaking, releases to soil have occurred. Depending on the quantity of used oil that has leaked, ground water contamination may have occurred. The potential for ground water contamination is judged to be high. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.15 SWMU #17 - WASTE ACCUMULATION AREAS NEAR BLDG. 740

Photo: None

Location: Figure 3

4.15.1 Information Summary

Unit Description: This unit includes two small waste accumulation areas near Bldg. 740, the DEH Maintenance building. Activities conducted in this building include heavy equipment maintenance, parts cleaning, and lubrication and maintenance of vehicles. These accumulation areas are unpaved and uncovered with drums located on wooden pallets. At the time of the VSI, one accumulation area contained three drums, the other contained five. Wastes are stored here prior to shipment to DRMO for disposal.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes generated in this building include antifreeze, brake fluid, denatured alcohol, dry cleaning solvent, ethylene glycol, hydraulic fluid, methanol, oil, and transmission fluid (5).

Release Controls: Waste drums are situated on pallets. No other release controls are present.

History of Releases: No information on the history of releases was available. No releases were observed during the VSI.

4.15.2 Conclusions

Due to the lack of significant release controls, leakage or spills from the waste drums would result in contamination of soil. Although no releases were observed during the VSI, the potential for releases to soil is judged to be moderate. Due to the small quantities of wastes handled in this unit, the potential for migration of contaminants to ground water is low. The nearest surface water is about one mile away, therefore there is little potential for releases to surface water. Since the drums are normally closed, there is low potential for releases to air. There is low potential for subsurface gas generation.

4.16 SWMU #18 - OIL/WATER SEPARATOR NEAR BLDG. 740

Photo: None

Location: Figure 3

4.16.1 Information Summary

Unit Description: This unit collects wastewaters from floor drains inside Bldg. 740, the DEH Maintenance building. Although this unit was not observed during the VSI, facility personnel indicated it is of the same design as other oil/water separators at Fort Richardson. It is a covered concrete box, about 3 feet by 3 feet in size and about 5 feet deep. A grit separator is located in the center of the unit; the grit separator is about 2 feet by 2 feet in size (1). Washwater from floor drains in Bldg. 740 drain or are pumped to this unit. Oil is removed annually; it is tested for contaminants, then either disposed of as a hazardous waste or shipped by rail to Fort Wainwright to be burned for energy recover. Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit collects washwaters containing oil, grease, fuel, and other materials that may drain to the floor drains.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that, in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.16.2 Conclusions

Since this unit is constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.17 SWMU #19 - UNDERGROUND WASTE OIL TANK NEAR BLDG. 740

Photo: None

Location: Figure 3

4.17.1 Information Summary

Unit Description: This unit is a 1,000-gallon steel underground used oil storage tank located outside of Bldg. 740, the DEH Maintenance building. It is used for collecting used oil generated during equipment and vehicle maintenance activities. The tank is pumped out periodically. The oil in the tank is tested; if it meets specified criteria for halogen concentration and flammability, it is transferred to the used oil transfer area (SWMU #41) for shipment by rail to Fort Wainwright where it is burned for energy recovery. If it does not meet the specified criteria, the used oil is disposed of as a hazardous waste.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit stores used oil.

Release Controls: This unit operates without release controls.

History of Releases: Testing performed in the summer of 1987 indicated that this tank is not leaking (2).

4.17.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.18 SWMU #20 - WASTE ACCUMULATION AREAS NEAR BLDG. 750

Photo: None

Location: Figure 3

4.18.1 Information Summary

Unit Description: Bldg. 750 houses the 1st Battalion, 17th Infantry Division and the 2nd Battalion, 17th Infantry Division motor pools (6). Activities conducted in this building include battery rework, parts cleaning, steam cleaning, lubrication and maintenance of vehicles (3). There are two small waste accumulation areas near this building; at the time of the VSI, each contained two drums. The drums were surrounded by sand bags. The area is unpaved and uncovered.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes generated in this building include waste antifreeze, brake fluid, denatured alcohol, drycleaning solvent, grease, oil, sulfuric acid, transmission fluid, and wastewater from steam cleaning (3, 5).

Release Controls: Sand bags were located around the waste drums to capture any spills. No other release controls are present.

History of Releases: No information on the history of releases from this unit was available. No releases were observed during the VSI (1).

4.18.2 Conclusions

Due to the lack of significant release controls, leakage or spills from the waste drums would result in contamination of soil. Although no releases were observed during the VSI, the potential for releases to soil is judged to be moderate. Due to the small quantities of wastes handled in this unit, the

potential for migration of contaminants to ground water is low. The nearest surface water is about one mile away, therefore there is little potential for releases to surface water. Since the drums are normally closed, there is low potential for releases to air. There is low potential for subsurface gas generation.

4.19 SWMUS #21 AND #22 - OIL/WATER SEPARATORS #1 AND #2 NEAR BLDG. 750

Photo: None

Location: Figure 3

4.19.1 Information Summary

Unit Description: These units collect wastewaters from floor drains inside Bldg. 750, which contains two motor pools. There are two separate oil/water separators, one for each motor pool. Although the separators were not observed during the VSI, facility personnel indicated they are of the same design as other oil/water separators at Fort Richardson. They are covered concrete boxes, about 3 feet by 3 feet in size and about 5 feet deep. A grit separator is located in the center of each unit; the grit separator is about 2 feet by 2 feet in size (1). Washwater from floor drains in Bldg. 750 drain or are pumped to this unit. Oil is removed annually; it is tested for contaminants, then either disposed of as a hazardous waste or shipped by rail to Fort Wainwright to be burned for energy recovery. Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit collects washwaters containing oil, grease, fuel, and other materials that may be drain to the floor drains.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that, in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.19.2 Conclusions

Since these separators are constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the units are covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.20 SWMUS #23 AND #24 - UNDERGROUND WASTE OIL STORAGE TANKS #1 AND #2 NEAR BLDG. 750

Photo: None

Location: Figure 3

4.20.1 Information Summary

Unit Description: These units are two steel 1,000-gallon underground used oil storage tanks. There is one tank for each motor pool located in Bldg. 750. They are used for collecting used oil generated during equipment and vehicle maintenance activities. The tanks are pumped out periodically. The oil in the tanks is tested; if it meets specified criteria for halogen concentration and flammability, it is transferred to the used oil transfer area (SWMU #41) for shipment by rail to Fort Wainwright where it is burned for energy recovery. If it does not meet the specified criteria, the used oil is disposed of as a hazardous waste.

Dates of Operation: These tanks are currently active. The date they began operation is unknown.

Wastes Managed: This unit stores used oil.

Release Controls: This unit operates without release controls.

History of Releases: Testing performed in the summer of 1987 indicated that these tanks are not leaking (2).

4.20.2 Conclusions

Since these tanks were tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.21 SWMU #25 - OIL/WATER SEPARATOR NEAR BLDG. 754

Photo: None

Location: Figure 3

4.21.1 Information Summary

Unit Description: This unit is an oil/water separator located at Bldg. 754, the post car wash. The car wash has three bays with floor drains that flow to this unit. Although this unit was not observed during the VSI, facility personnel indicated it is of the same design as other oil/water separators at Fort Richardson. It is a covered concrete box, about 3 feet by 3 feet in size and about 5 feet deep. A grit separator is located in the center of the unit; the grit separator is about 2 feet by 2 feet in size (1). Washwaters from the car wash drain or are pumped to this unit. Oil is removed annually; it is tested for contaminants, then either disposed of as a hazardous waste or shipped by rail

to Fort Wainwright to be burned for energy recovery. Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit collects washwaters containing oil, grease, fuel, and other materials that may be washed from vehicles.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.21.2 Conclusions

Since this unit is constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.22 SWMU #26 - UNDERGROUND WASTE OIL TANK NEAR BLDG. 755

Photo: None

Location: Figure 3

4.22.1 Information Summary

Unit Description: This unit is a 1,000-gallon underground used oil storage tank located near Bldg. 755, the Craft Center. It is used for collecting used oil generated during maintenance activities and collected at the "oil dump area" inside the building. The tank is pumped out periodically. The oil in the tank is tested; if it meets specified criteria for halogen concentration and flammability, it is transferred to the used oil transfer area (SWMU #41) for shipment by rail to Fort Wainwright where it is burned for energy recovery. If it does not meet the specified criteria, the used oil is disposed of as a hazardous waste.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit stores used oil.

Release Controls: This unit operates without release controls.

History of Releases: Testing performed in the summer of 1987 indicated that this tank is not leaking (2).

4.22.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.23 SWMU #27 - PAINT SPRAY BOOTH IN BLDG. 755

Photo: None

Location: Figure 3

4.23.1 Information Summary

Unit Description: This unit is used for minor vehicle painting. It is a waterfall filter-type spray booth. Approximately two to three cars per month are painted here when the booth is operational. It is located inside Bldg. 755, the Crafts Shop.

Dates of Operation: This unit was shut down in 1988 due to problems with the waterfall. It is currently inactive.

Wastes Managed: Paints used are primarily enamel-type paints; no Chemical Agent Resistant Coating (CARC) paint is used in this unit.

Release Controls: The paint spray booth is located inside Bldg. 755. The filters serve to control air releases from the paint spray booth.

History of Releases: No releases are known.

4.23.2 Conclusions

Since this unit is located indoors, releases to soil, surface water, or ground water are considered unlikely. Releases to air are also judged to be low since the waterfall filter serves to capture any air releases. There is no potential for subsurface gas generation.

4.24 SWMU #28 - OIL/WATER SEPARATOR NEAR BLDG. 756

Photo: None

Location: Figure 3

4.24.1 Information Summary

Unit Description: Bldg. 756 houses the 11th Field Artillery (6). Activities conducted include parts cleaning, steam cleaning, touch-up painting, and lubrication (3). Floor drains in this building flow to the oil/water separator. Although this unit was not observed during the VSI, facility personnel indicated it is of the same design as other oil/water separators at Fort Richardson. It is a covered concrete box, about 3 feet by 3 feet in size and about 5 feet deep. A grit separator is located in the center of the unit; the grit separator is

about 2 feet by 2 feet in size (1). Washwaters from the car wash drain or are pumped to this unit. Oil is removed annually; it is tested for contaminants, then either disposed of as a hazardous waste or shipped by rail to Fort Wainwright to be burned for energy recovery. Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes generated in this building include brake fluid, dry cleaning solvent, grease, hydraulic fluid, helium, kerosene, naphtha, oil, transmission fluid, and trioxane (5). Washwaters containing residues of these materials may be stored in this unit.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that, in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.24.2 Conclusions

Since this unit is constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.25 SWMU #29 - UNDERGROUND WASTE OIL TANK NEAR BLDG. 756

Photo: None

Location: Figure 3

4.25.1 Information Summary

Unit Description: This unit is a 1,000-gallon steel underground used oil storage tank. It is used for collecting used oil generated during cleaning and maintenance activities. The tank is pumped out periodically. The oil in the tank is tested; if it meets specified criteria for halogen concentration and flammability, it is transferred to the used oil transfer area (SWMU #41) for shipment by rail to Fort Wainwright where it is burned for energy recovery. If it does not meet the specified criteria, the used oil is disposed of as a hazardous waste.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit stores used oil.

Release Controls: This unit operates without release controls.

History of Releases: Testing performed in the summer of 1987 indicated that this tank is not leaking (2).

4.25.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.26 SWMU #30 - UNDERGROUND USED OIL TANK NEAR BLDG. 770

Photo: None

Location: Figure 3

4.26.1 Information Summary

Unit Description: This unit is a 1,500-gallon underground steel used oil storage tank located near Bldg. 770, the 106th MI motor pool (6, 7). It is used for collecting used oil generated during cleaning and maintenance activities. The tank is pumped out periodically. The oil in the tank is tested; if it meets specified criteria for halogen concentration and flammability, it is transferred to the used oil transfer area (SWMU #41) for shipment by rail to Fort Wainwright where it is burned for energy recovery. If it does not meet the specified criteria, the used oil is disposed of as a hazardous waste.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit stores used oil.

Release Controls: This unit operates without release controls.

History of Releases: Testing performed in the summer of 1987 indicated that this tank is not leaking (2).

4.26.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.27 SWMU #31 - OIL/WATER SEPARATOR NEAR BLDG. 778

Photo: None

Location: Figure 3

4.27.1 Information Summary

Unit Description: Bldg. 778 houses the 6th Signal Battalion (6). Floor drains in this building flow to the oil/water separator. Although this unit was not observed during the VSI, facility personnel indicated it is of the same design as other oil/water separators at Fort Richardson. It is a covered concrete box, about 3 feet by 3 feet in size and about 5 feet deep. A grit separator is located in the center of the unit; the grit separator is about 2 feet by 2 feet in size (1). Washwaters from the car wash drain or are pumped to this unit. Oil is removed annually; it is tested for contaminants, then either disposed of as a hazardous waste or shipped by rail to Fort Wainwright to be burned for energy recovery. Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes generated in this building include brake fluid, solvent, grease, hydraulic fluid, oil, and transmission fluid. Washwaters containing residues of these materials may be stored in this unit.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.27.2 Conclusions

Since this unit is constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.28 SWMU #32 - OIL/WATER SEPARATOR NEAR BLDG. 784

Photo: None

Location: Figure 3

4.28.1 Information Summary

Unit Description: Bldg. 784 houses the 706th Light Maintenance and 706th Maintenance Battalions (6). Floor drains in this building flow to the oil/water separator. Although this unit was not observed during the VSI, facility personnel indicated it is of the same design as other oil/water separators at Fort Richardson. It is a covered concrete box, about 3 feet by 3 feet in size and about 5 feet deep. A grit separator is located in the center of the unit; the grit separator is about 2 feet by 2 feet in size (1). Washwaters from the

car wash drain or are pumped to this unit. Oil is removed annually; it is tested for contaminants, then either disposed of as a hazardous waste or shipped by rail to Fort Wainwright to be burned for energy recovery. Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes generated in this building include brake fluid, solvent, grease, hydraulic fluid, oil, and transmission fluid. Washwaters containing residues of these materials may be stored in this unit.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.28.2 Conclusions

Since this unit is constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.29 SWMU #33 - WASTE ACCUMULATION AREA NEAR BLDG. 796

- ° Photo: 64, 65
- Location: Figure 3

4.29.1 Information Summary

Unit Description: Bldg. 796 is the DOL Maintenance/Vehicle and Weapons Repair Section; it is used for vehicle and equipment maintenance. Activities conducted at this unit include engine rebuilding, radiator cleaning, battery rework, brake repair, parts cleaning, painting (including the use of CARC paint), steam cleaning, and lubrication and maintenance of vehicles (3). The waste accumulation area is located on the east side of Bldg. 796. A May 1988 AEHA inspection noted improper labeling of drums at this unit (2). At the time of the VSI, 13 drums and five boxes were observed in this unit. Drums are stored on pallets. The area is roped off on one side and signs indicating the presence of hazardous waste are posted. The drums were in poor condition at the time of the VSI (1). About three to six drums of solvent (PD-680 II) are used annually in Bldg. 796. These will be recycled as soon as a proposed still is operational. Currently these drums are transferred to Bldg. 974 (SWMU #45) (1).

Dates of Operation: The date this unit began operation is unknown; it is currently active.

Wastes Managed: Wastes generated in this building include acetone, antifreeze, brake fluid, denatured alcohol, drycleaning solvent, paints (including CARC paint), paint thinner, oil, sulfuric acid, and transmission fluid. At the time

of the VSI, the following wastes were being accumulated: used antifreeze, waste paint, sodium hydroxide, waste combustible liquid, and insta-foam.

Release Controls: Drums are located on pallets. No other release controls were observed.

History of Releases: Staining was observed on the gravel around the waste accumulation area during the VSI (1). In addition, the drums appeared to be in very poor condition.

4.29.2 Conclusions

Given the poor condition of the waste drums and the fact that stains were observed during the VSI, the potential for releases to soil is high. Depending on the quantity of materials spilled on the ground, the potential for releases to ground water is low to moderate. The nearest surface water is at least one mile away, therefore the potential for releases to surface water is low. Because the waste drums are generally closed, there is little potential for air releases. There is low potential for subsurface gas generation.

4.30 SWMU #34 - SUMPS AND WASH RACK IN BLDG. 796

Photo: 66, 67

Location: Figure 3

4.30.1 Information Summary

Unit Description: There are at least seven floor drain sumps within Bldg. 796. Sludges are pumped out of these sumps periodically and are tested for hazardous waste characteristics prior to disposal. Water in the floor drain sumps eventually flows to a central sump. The wash rack in this building also has a floor sump similar to the ones described above. No other information about this unit was available.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes managed include washwaters contaminated with oils, grease, solvents, and other materials.

Release Controls: This unit is located inside Bldg. 796.

History of Releases: No information on the history of releases from this unit was available.

4.30.2 Conclusions

Since this unit is constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the wastes collected in this unit are not expected to be particularly volatile, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.31 SWMU #35 - UNDERGROUND USED OIL TANK NEAR BLDG. 796

Photo: 69

Location: Figure 3

4.31.1 Information Summary

Unit Description: This unit is a 1,500-gallon underground used oil storage tank located near Bldg. 796. It is currently used for storage of used engine oil. Oil is pumped out about twice per year and tested for halogens prior to disposal. Oil is pumped to the Used Oil Transfer Area at Bldg. 955 (SWMU #41).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit currently stores used engine oil. It was previously used for a variety of waste oils and/or fuels.

Release Controls: This unit operates without release controls.

History of Releases: This tank was tested in 1987 and was found to be intact (1).

4.31.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.32 SWMU #36 - PAINT SPRAY BOOTH IN BLDG. 796

Photo: None

Location: Figure 3

4.32.1 Information Summary

Unit Description: This unit is a dry filter-type paint spray booth located inside Bldg. 796. It is used for vehicle and other equipment painting. When the filters are used up, they are placed in the trash for disposal at the Anchorage municipal landfill.

Dates of Operations: This unit is currently active; the date it began operation is unknown.

Wastes Managed: The paint spray booth filters collect paint fumes. Paints used include enamel paints and CARC paint.

Release Controls: This unit is located inside Bldg. 796. The filters serve to minimize air releases from this unit.

History of Releases: No releases from this unit have been documented.

4.32.2 Conclusions

Since this unit is located indoors, releases to soil, surface water, or ground water are considered unlikely. Releases to air are also judged to be low since the filters serve to capture any air releases. There is no potential for subsurface gas generation.

4.33 SWMU #37 - FORMER UNDERGROUND NEUTRALIZATION TANK NEAR BLDG. 796

Photo: 71

Location: Figure 3

4.33.1 Information Summary

Unit Description: The battery shop in Bldg. 796 formerly drained batteries. Batteries were overturned on a stainless steel table and were drained into a small stainless steel tank (12). When the acid level reached several inches from the top, sodium bicarbonate was added to neutralize the acid. Litmus paper was used to determine pH. When pH was judged to be satisfactory, a small valve at the bottom of the tank was opened and the solution was discharged to a floor drain. The drain led to an underground tank (SWMU #37) for storage of the "neutralized" battery acid. This process was repeated weekly (12). Precipitates were discharged with the solution. The underground tank was located about 100 feet from Bldg. 796. Over time, the tank reportedly disintegrated and essentially became a leach field. The tank and surrounding soil were excavated (date unknown). No information on any sample collected was available.

Dates of Operation: This tank was in operation until 1985. The date it began operation is unknown.

Wastes Managed: This unit was used to store "neutralized" battery acid. It appears unlikely, however, that the acid was properly neutralized prior to being placed in this unit. This unit may also have contained heavy metals.

Release Controls: This unit was operated without release controls.

History of Releases: Releases to soil have occurred from this unit due to the disintegration of the tank. Although the tank and surrounding soil were reportedly excavated (1), facility personnel could find no information regarding the quantities of soil removed, the date the cleanup occurred, and whether any sampling was conducted.

4.33.2 Conclusions

Since significant releases to soil have already occurred at this unit, the potential for releases to soil and ground water is considered to be high. Without additional documentation regarding the soil removal action that has been conducted at this unit, it is not possible to judge whether the contaminants are still present or whether adequate cleanup action has been performed. Due to the nature of the contaminants at this unit, there is no potential for air releases or subsurface gas generation. Due to the distance to the nearest surface water body (about one mile), the likelihood of releases to surface water is low.

4.34 SWMUS #38 AND #39 - UNDERGROUND USED OIL TANKS NEAR BLDG. 798

Photo: None

Location: Figure 3

4.34.1 Information Summary

Unit Description: This unit consists of two 300-gallon partially buried used oil storage tanks located on the east side of Bldg. 798, which houses the A Company, 706th M. Battalion (6, 7).

Dates of Operation: These units are not currently in use.

Wastes Managed: The tanks were used to store used oil and/or fuels.

Release Controls: This unit was operated without release controls.

History of Releases: No information on the history of releases from this unit was available. These tanks are believed to have been tested in 1987 (at the time all other underground tanks on the post were tested). No leaks were detected.

4.34.2 Conclusions

Since these tanks were tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.35 SWMU #40 - OIL/WATER SEPARATOR NEAR BLDG. 812

Photo: None

Location: Figure 3

4.35.1 Information Summary

Unit Description: Bldg. 812 houses the HHC 1st Brigade Support (6). Although this unit was not observed during the VSI, facility personnel indicated it is of the same design as other oil/water separators at Fort Richardson. It is a covered concrete box, about 3 feet by 3 feet in size and about 5 feet deep. A grit separator is located in the center of the unit; the grit separator is about 2 feet by 2 feet in size (1). Washwaters from Bldg. 812 drain or are pumped to this unit. Oil is removed annually; it is tested for contaminants, then either disposed of as a hazardous waste or shipped by rail to Fort Wainwright to be burned for energy recovery. Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes generated in this building include brake fluid, solvent, grease, hydraulic fluid, oil, and transmission fluid. Washwaters containing residues of these materials may be stored in this unit.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.35.2 Conclusions

Since this unit is constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.36 SWMU #41 - USED OIL TRANSFER AREA AT BLDG. 955

Photo: 72, 73, 74, 75, 76, 77, 78, 79
Location: Figure 3

4.36.1 Information Summary

Unit Description: This unit is used for transfer of used oil and fuel from throughout the Post. This unit is operated by DEH. A small building contains a screen filter to remove large items. The oil or fuel then drains to one of two underground tanks (SWMU #42 and #43). In addition to the two underground tanks, this area is used for storage of 55-gallon drums of used oil. When the underground oil tank is full, waste is transferred to a rail tank car for shipment to Fort Wainwright to be burned in their power plant for energy recovery. During the VSI, about 15 drums of waste oil were stored here. Some were on pallets, some on the ground. Water was pooled on the drums. Numerous empty drums were located behind Bldg. 955. In addition, three drums of contaminated fuel or oil were located several hundred feet from Bldg. 955.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes managed at this unit include used oil and fuel.

Release Controls: The area in the front of Bldg. 955, where used oil is transferred, is paved with asphalt. The sides and back of the Bldg. 955 area are unpaved. The building is fenced in front.

History of Releases: Chlorinated materials (>1000 ppm halogens) have been commingled with used oil in the past. During the 1988 AEHA inspection, spillage around the tank fill port, stored drums, and area in general were observed. Also, the inspectors observed open drums, inadequate labelling, and no access control (2). During the VSI, oil was observed soaked into the ground in front of Bldg. 955. Evidence of spills was widespread; large oily stains were observed on soil in the area (1).

4.36.2 Conclusions

Evidence of releases to soil was observed during the VSI. Although the area was generally in poor condition and oil handling practices are sloppy, there is only a moderate potential that contaminants have been transported to ground water. Due to the distance to the nearest surface water body (about one mile), there is little chance of releases to surface water from this unit. There is a moderate potential for air releases during the transfer of used oil and fuel; a noticeable odor was identified during the VSI. There is low potential for subsurface gas generation.

4.37 SWMU #42 - UNDERGROUND WASTE OIL TANK NEAR BLDG. 955

Photo: 73, 74, 77

Location: Figure 3

4.37.1 Information Summary

Unit Description: This unit is a 10,000-gallon carbon steel underground waste oil tank located at the used oil transfer area near Bldg. 955.

Dates of Operation: This unit has been active since 1984. At the time of the VSI, this unit was shut down due to sediment in the tank (1).

Wastes Managed: Wastes stored in this unit are used oils and occasionally in the past, used oils contaminated with chlorinated solvents.

Release Controls: This unit operates without release controls.

History of Releases: This tank was tested in 1987, and was found to be intact (1).

4.37.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.38 SWMU #43 - UNDERGROUND SLOP FUEL TANK NEAR BLDG. 955

Photo: 73, 74, 77

Location: Figure 3

4.38.1 Information Summary

Unit Description: This unit is a 10,000-gallon carbon steel underground slop fuel tank located at the used oil transfer area near Bldg. 955.

Dates of Operation: This unit has been active since 1984.

Wastes Managed: This unit is used to store slop fuels.

Release Controls: This unit operates without release controls.

History of Releases: This tank was tested in 1987, and was found to be intact (1).

4.38.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.39 SWMU #44 - WASTE ACCUMULATION AREA NEAR BLDG. 974

Photo: 96

Location: Figure 3

4.39.1 Information Summary

Unit Description: Bldg. 974 is the DOL Maintenance/Special Purpose Equipment Repair Section. Activities in this building include parts cleaning, engine rebuilding, and steam cleaning. At the time of the VSI, there were 15 drums stored here. Facility personnel usually wait until five or so drums accumulate to minimize the amount of paperwork necessary to transfer the waste to DEH (1).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Operations at this unit generate used oil, solvents, chlorinated solvents, antifreeze, grease, potassium hydroxide, and wastewater from steam cleaning (2, 3, 5). At the time of the VSI, the unit was storing trichloroethane (TCA), brake fluid, contaminated oil, and contaminated diesel fuel (1). Reportedly, about one drum per week of spent TCA is generated in Bldg. 974.

Release Controls: A five-foot wooden wall surrounds the waste accumulation area on three sides. Drums are situated on pallets (1).

History of Releases: No information on the history of releases was available. No evidence of leakage was observed during the VSI (1).

4.39.2 Conclusions

Due to the lack of significant release controls, leakage or spills from the waste drums would result in contamination of soil. Although no releases were observed during the VSI, the potential for releases to soil is judged to be moderate. Due to the small quantities of wastes handled in this unit, the potential for migration of contaminants to ground water is low. The nearest surface water is about one mile away, therefore there is little potential for releases to surface water. Since the drums are normally closed, there is low

potential for releases to air. There is low potential for subsurface gas generation.

4.40 SWMU #45 - WASTE SOLVENT ACCUMULATION AREA NEAR BLDG. 974

Photo: 97, 98, 99
Location: Figure 3

4.40.1 Information Summary

Unit Description: This unit consists of racks for horizontal storage of dirty solvent drums; it is located next to the product storage area behind Bldg. 974. At the time of the VSI, nine drums of dirty solvent were being stored in this unit. The area around the drums is soil, which is inside a concrete basin about 3 feet deep. One drum was observed leaking onto the soil during the VSI (1). Facility personnel indicated that this drum had been placed in this unit only 30 minutes earlier.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit is used to accumulate dirty solvent (primarily TCA) prior to transfer to DRMO.

Release Controls: The area around the drums is contained within a concrete basin about 3 feet deep which is filled with soil.

History of Releases: No information on the history of releases from this unit was available.

4.40.2 Conclusions

Since releases to soil were observed during the VSI, the potential for future releases to soil is high. No information was provided by facility personnel regarding the disposition or testing of contaminated soil. Due to the presence of a concrete basin, it is unlikely that releases to ground water or surface water have occurred. There is a moderate potential for air releases during leakage of solvent from waste drums (as was observed during the VSI). There is low potential for subsurface gas generation.

4.41 SWMU #46 - FUEL BLIVET CLEANING AREA NEAR BLDG. 974

Photo: 87
Location: Figure 3

4.41.1 Information Summary

Unit Description: This unit is used for cleaning portable fuel tanks called "blivets." The cleaning area is paved with a coated concrete and has 6-inch curbs around three sides. Fuel removed from the blivets is drained into a 1000-gallon underground fuel tank. Washwater drains to a sump with a grit trap. The sump is about 2 feet by 8 feet in size, and about 1.5 feet deep. The grit trap

has reportedly never been cleaned (1). Material in the sump is piped to an oil/water separator box (SWMU #47).

Dates of Operation: This unit has been in operation since 1985 or 1986.

Wastes Managed: Wastes managed include washwaters contaminated with fuel, detergent, and dirt.

Release Controls: The ground surface of the fuel blivet cleaning area is coated concrete. However, the coating appeared to be flaking off during the VSI (1). The 6-inch curbs are too short to prevent splashing.

History of Releases: No information on the history of releases from this unit was available.

4.41.2 Conclusions

Although some minor soil releases due to splashing may have occurred, no evidence of releases was observed during the VSI. Therefore, the potential for releases to soil, ground water, and surface water is judged to be low. Some air releases may occur during draining of fuel from the blivets, however this is expected to be minimal. There is no potential for subsurface gas generation.

4.42 SWMU #47 - OIL/WATER SEPARATOR AT FUEL BLIVET CLEANING AREA

Photo: 89

Location: Figure 3

4.42.1 Information Summary

Unit Description: Water collected in a sump at the fuel blivet cleaning area (SWMU #46) is piped to this unit. It is a covered concrete box, about 3 feet by 3 feet in size and about 5 feet deep. A grit separator is located in the center of the unit; the grit separator is about 2 feet by 2 feet in size (1). Fuel is removed periodically; water is piped to the sanitary sewer system (SWMU #116). During the VSI, it appeared that the unit may not be working properly; the water/fuel/soap mixture did not appear to be separating.

Dates of Operation: This unit is currently active. It has been in operation since 1985 or 1986.

Wastes Managed: Wastes managed include washwaters contaminated with fuel, detergent, and dirt.

Release Controls: This unit operates without release controls.

History of Releases: During the 1988 AEHA inspection, fuel (ignitable waste) was being discharged to the sanitary sewer (SWMU #117). The oil/water separator was not functioning properly (2). During the VSI (1), the unit again did not appear to be functioning properly, possibly resulting in discharges of fuel to the sanitary sewer.

4.42.2 Conclusions

Although discharges to the sanitary sewer (SWMU #116) may be occurring, it is unlikely that releases to the environment have occurred as a result of improper operation of this unit. Since the separator box is constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.43 SWMU #48 - UNDERGROUND WASTE OIL TANKS NEAR BLDG. 974

Photo: 88

Location: Figure 3

4.43.1 Information Summary

Unit Description: This unit includes a 1200-gallon underground used oil tank and a 500-gallon underground slop tank (7). The tanks are located on the south side of Bldg. 974.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: These tanks are used to store used oil and slop oil and/or fuel.

Release Controls: These units are operated without release controls.

History of Releases: No information on the history of releases from this unit was available. Soil staining was observed, however, around the funnel at the top of the used oil tank. This tank was tested in 1987, and was found to be intact (1).

4.43.2 Conclusions

Since this tank was tested and found to be intact, releases to subsurface soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. Surface soil staining during the VSI is probably the result of sloppy oil handling practices, rather than leakage from the tank. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.44 SWMU #49 - OIL/WATER SEPARATOR NEAR BLDG. 974

Photo: None

Location: Figure 3

4.44.1 Information Summary

Unit Description: Bldg. 974 is the DOL Maintenance/Special Purpose Equipment Repair Section. Activities in this building include parts cleaning, engine rebuilding, and steam cleaning. Although the oil/water separator was not observed during the VSI, facility personnel indicated it is of the same design as other oil/water separators at Fort Richardson. It is a covered concrete box, about 3 feet by 3 feet in size and about 5 feet deep. A grit separator is located in the center of the unit; the grit separator is about 2 feet by 2 feet in size (1). Washwaters from Bldg. 974 drain or are pumped to this unit. Oil is removed annually; it is tested for contaminants, then either disposed of as a hazardous waste or shipped by rail to Fort Wainwright to be burned for energy recovery. Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Operations at this unit generate used oil, solvents, chlorinated solvents, antifreeze, grease, potassium hydroxide, and wastewater from steam cleaning (2, 3, 5). Washwaters containing residues of these materials may be stored in this unit.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.44.2 Conclusions

Since this unit is constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.45 SWMU #50 - WASH RACK SUMP IN BLDG. 975

Photo: None

Location: Figure 3

4.45.1 Information Summary

Unit Description: This building housed the 562nd Engineers motor pool. Reportedly, this unit was deactivated last year (6) and the building is now used for electronics maintenance. The wash rack in Bldg. 975 drained to a blind sump about 3 feet by 5 feet in size and 1 foot deep. The sump drains to an oil/water separator (SWMU #51) located outside of Bldg. 975.

Dates of Operation: This unit was active until 1988.

Wastes Managed: The sump collects washwaters contaminated with oil, fuels, transmission fluid, dirt, and other debris.

Release Controls: This unit is located inside Bldg. 975.

History of Releases: There is no information on the history of releases from this unit. No evidence of releases was observed during the VSI.

4.45.2 Conclusions

Since this unit is located inside a building, it is unlikely that releases to soil, ground water, surface water, or air have occurred. There is no potential for subsurface gas generation.

4.46 SWMUS #51 AND #52 - OIL/WATER SEPARATORS NEAR BLDG. 975

Photo: 90, 93, 94

Location: Figure 3

4.46.1 Information Summary

Unit Description: Two oil/water separators are located on opposite sides of Bldg. 975. Each is a covered concrete box, about 3 feet by 5 feet in size and about 3 feet deep. A grit separator is located in the center of each unit; the grit separator is about 2 feet by 2 feet in size (1). Washwaters from Bldg. 975 drained or were pumped to these units. Oil was pumped to an underground storage tank (SWMU #53). Water is piped to the sanitary sewer system (SWMU #116).

Dates of Operation: These units were active until 1988. They are currently inactive.

Wastes Managed: Operations at Bldg. 975 generated used oil, solvents, chlorinated solvents, antifreeze, and grease. Washwaters containing residues of these materials may have been stored in these units.

Release Controls: These units operated without release controls.

History of Releases: The 1988 AEHA inspection noted that, in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.46.2 Conclusions

Since these units are constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the units are covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.47 SWMU #53 - UNDERGROUND WASTE OIL STORAGE TANK NEAR BLDG. 975

Photo: None

Location: Figure 3

4.47.1 Information Summary

Unit Description: This unit is an underground used oil storage tank located near Bldg. 975. No other information on the construction, size, or history of this unit was available.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit currently stores used oil. It may have been previously used for a variety of waste oils and/or fuels.

Release Controls: This unit operates without release controls.

History of Releases: This tank was tested in 1987 and was found to be intact (1).

4.47.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.48 SWMU #54 - WASTE ACCUMULATION AREA NEAR BLDG. 976

Photo: None

Location: Figure 3

4.48.1 Information Summary

Unit Description: Bldg. 976 is another DOL Maintenance area. Activities conducted in this building include general maintenance of equipment, fiberglass operations, and spray painting (3). Hazardous materials used in Bldg. 976 include mercury and lithium batteries, methyl ethyl ketone, acetone, resins, and paints. The waste accumulation area was not observed during the VSI, but is believed to be similar to other waste accumulation areas on the post.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes that may be stored in this unit include paints, peroxide, corrosives, paint remover, and fiberglass resins.

Release Controls: No information on release controls was available.

History of Releases: No information on the history of releases from this unit was available.

4.48.2 Conclusions

Assuming this unit is in similar condition to those waste accumulation areas inspected during the VSI, there is at least a moderate potential for releases to soil. Due to the small quantities of waste handled by most of these units, it is unlikely that transport of contaminants to ground water has occurred or will occur in the future. Since the nearest surface water body is about a mile away from these units, the potential for releases to surface water is also low. Drums are normally stored closed, so there is little likelihood of air releases. There is low potential for subsurface gas generation.

4.49 SWMU #55 - PAINT SPRAY BOOTH IN BLDG. 976

Photo: 82

Location: Figure 3

4.49.1 Information Summary

Unit Description: This unit is a large vehicle paint spray booth located in Bldg. 976. It has a waterfall filter system for collection of fumes; the waterfall tank is cleaned periodically and any residue is removed. Facility personnel did not know the mode of disposition of residue (1). Water with entrained materials is piped to the sanitary sewer system (SWMU #116) periodically (water is normally recirculated). According to facility personnel, the unit has been cleaned out once in the past nine years (1). This unit is one of the main painting areas on post.

Dates of Operation: This unit is currently active.

Wastes Managed: Paints used may include Chemical Agent Resistant Coating (CARC) paint, which contains hexmethylenediisocyanate (HDI). HDI is not regulated at this time, but may be included in ADEC's developing toxic air pollutant program. Most painting is currently done using lacquer paint.

Release Controls: The waterfall filter system serves to minimize air releases from this unit. The unit is located inside Bldg. 976.

History of Releases: During the 1988 AEHA inspection, no visible emissions were observed (2). No evidence of releases was observed during the VSI (1).

4.49.2 Conclusions

Since this unit is located inside a building, there is low potential for releases to soil, ground water, or surface water. The waterfall filter system minimizes the potential for air releases. There is no potential for subsurface gas generation.

4.50 SWMU #56 - FORMER ACID BATH/NEUTRALIZATION TANK IN BLDG. 976

Photo: None

Location: Figure 3

4.50.1 Information Summary

Unit Description: An acid bath and neutralization tank were reportedly located in this building. No other information about this unit was available.

Dates of Operation: This unit was active until 1974.

Wastes Managed: This unit managed waste acids.

Release Controls: No information on release controls was available.

History of Releases: No information on the history of releases was available.

4.50.2 Conclusions

Although very little information about this unit was available, since it is located inside a building it is unlikely that releases to soil, ground water, air, or surface water have occurred. Since this unit has been removed, there is no potential for ongoing releases. There is no potential for subsurface gas generation.

4.51 SWMU #57 - FIBERGLASS FILTER IN BLDG. 976

Photo: 85

Location: Figure 3

4.51.1 Information Summary

Unit Description: Some fiberglass operations are conducted in Bldg. 976. When these activities are in progress, workers use Scott Air Paks. The air is filtered in a small box filter unit that captures small fiberglass particles. The filters are replaced periodically; used filters are disposed of in the Anchorage Municipal Landfill. The filter box appears to be made of aluminum and is about 3 feet square.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit collects fiberglass particles.

Release Controls: The filters are located inside an aluminum box inside a building.

History of Releases: No information on the history of releases was available.

4.51.2 Conclusions

Although very little information about this unit was available, since it is located inside a building it is unlikely that releases to soil, ground water,

air, or surface water have occurred. There is no potential for subsurface gas generation.

4.52 SWMU #58 - SILVER RECOVERY UNIT IN BLDG. 978

Photo: 100

Location: Figure 3

4.52.1 Information Summary

Unit Description: Bldg. 978 is the photo laboratory. The silver recovery unit is a gravity feed unit for treatment of expended hypo solution from photo processing operations. The unit overflows to the sanitary sewer system (SWMU #116). Silver is removed from the unit about once every three months or so. In addition to treating solutions from Bldg. 978, this unit also recovers silver from materials brought in from the field printing plant.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit treats expended hypo solution, which contains silver.

Release Controls: The unit is an enclosed unit located inside Bldg. 978.

History of Releases: No releases from this unit have been documented. No evidence of releases was observed during the VSI.

4.52.2 Conclusions

Since this unit is self-enclosed and located inside Bldg. 978, there is low potential for releases to soil, surface water, ground water, or air. There is no potential for subsurface gas generation.

4.53 SWMU #59 - PAINT SPRAY BOOTH IN BLDG. 978

Photo: None

Location: Figure 3

4.53.1 Information Summary

Unit Description: Building 978 is the Training & Audiovisual Support Center. The paint spray booth in this building is reportedly used for painting of various training aids and devices. It is a small walk-in dry filter-type paint booth. It was not observed during the VSI.

Dates of Operation: This unit is currently active but used intermittently.

Wastes Managed: This unit handles paints, primarily water-based paints.

Release Controls: The filters serve to minimize air releases.

History of Releases: No information on the history of releases was available.

4.53.2 Conclusions

Since this unit is located inside Bldg. 978, there is low potential for releases to soil, surface water, or ground water. The filters minimize any air releases from the paint spray booth. There is no potential for subsurface gas generation.

4.54 SWMU #60 - WASTE ACCUMULATION AREA NEAR BLDG. 986

Photo: 80

Location: Figure 3

4.54.1 Information Summary

Unit Description: Bldg. 986 is the POL Lab. The accumulation area is located on the east side of the building. At the time of the VSI, four drums were situated on pallets. The area is unpaved and uncovered.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes generated in this building include acetone and petroleum ether (5). At the time of the VSI, drums present contained contaminated oil, solvent, acetone, and freon (1).

Release Controls: Drums are situated on pallets. No other release controls are present.

History of Releases: No information on the history of releases from this unit was available. During the VSI, however, no evidence of releases was observed (1).

4.54.2 Conclusions

Because there are minimal release controls and the waste accumulation area is unpaved, there is a high potential for releases to soil. Due to the small quantities of waste handled by this unit, it is unlikely that transport of contaminants to ground water has occurred or will occur in the future. Since the nearest surface water body is about a mile away from this unit, the potential for releases to surface water is also low. Drums are normally stored closed, so there is little likelihood of air releases. There is low potential for subsurface gas generation.

4.55 SWMU #61 - UNDERGROUND WASTE FUEL TANK NEAR BLDG. 986

Photo: 81

Location: Figure 3

4.55.1 Information Summary

Unit Description: This unit is an 800-gallon carbon steel waste fuel tank located behind Bldg. 986, the POL lab. The tank is pumped out about three times per year (1). No other information on the history of this unit was available.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit currently stores waste fuel. It may have been previously used for a variety of waste oils and/or fuels.

Release Controls: This unit operates without release controls.

History of Releases: This tank was tested in 1987 and reportedly was found to be intact (1).

4.55.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.56 SWMU #62 - WASTE ACCUMULATION AREA NEAR BLDG. 36012

Photo: 117, 118

Location: Figure 3

4.56.1 Information Summary

Unit Description: Bldg. 36012 is the power plant. The waste accumulation area is covered and paved. At the time of the VSI, it contained about 40 drums, some of which were empty.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: Wastes generated at the power plant include cyclohexylamine, dry cleaning solvent, morpholine, sodium hydroxide, and sulfuric acid. At the time of the VSI, waste drums in this unit contained waste oil and oil-contaminated materials (1).

Release Controls: The unit is paved and covered.

History of Releases: No information on the history of releases at this unit was available.

4.56.2 Conclusions

Since this unit is covered and paved, there is moderate potential for releases to soil. There are no berms to prevent spillage of materials off the end of the pad. Due to the small quantities of wastes involved, there is low potential for releases to ground water. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is low potential for air releases since the drums are normally closed. The potential for subsurface gas generation is low.

4.57 SWMU #63 - UNDERGROUND WASTE OIL STORAGE TANK NEAR BLDG. 45590

Photo: None

Location: Figure 3

4.57.1 Information Summary

Unit Description: This unit is a 300-gallon underground used oil storage tank located near Bldg. 45590, the AAFES Auto Center (6, 7). No other information about the construction, design, or history of this unit was available. This unit was not observed during the VSI.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit currently stores used oil. It may have been previously used for a variety of waste oils and/or fuels.

Release Controls: This unit operates without release controls.

History of Releases: This tank was tested in 1987 and was found to be intact (1).

4.57.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.58 SWMU #64 - WASTE ACCUMULATION AREA NEAR BLDG. 45726

Photo: 109

Location: Not Shown

4.58.1 Information Summary

Unit Description: Bldg. 45726 houses the 23rd Engineers. Activities conducted include general auto repair and parts cleaning (3). The waste accumulation area is paved and curbed on the back side. The area is fenced. About 27 drums were located in this unit at the time of the VSI. Some of these drums contained product rather than waste. The drums were not situated on pallets.

Dates of Operation: This unit began operation in 1988, when Bldg. 45726 was built.

Wastes Managed: Wastes generated in this building include antifreeze, denatured alcohol, dry cleaning solvent, oils, and greases (3, 5). At the time of the VSI, this unit contained drums of waste oil, waste fuel, and waste antifreeze.

Release Controls: The waste accumulation area is paved and curbed.

History of Releases: No evidence of releases was observed during the VSI (1).

4.58.2 Conclusions

Since this unit has adequate release controls, the potential for releases to soil, ground water, or surface water are judged to be low. There is little chance for air releases because the drums are normally kept closed. There is no potential for subsurface gas generation.

4.59 SWMU #65 - OIL/WATER SEPARATOR NEAR BLDG. 45726

Photo: 107, 108

Location: Not Shown

4.59.1 Information Summary

Unit Description: This unit is used to collect wastewaters draining from the floor drains inside Bldg. 45726 and from the wash rack adjacent to the building. Oil from the oil/water separator is pumped periodically to an underground waste oil tank (SWMU #66); water is pumped to the sanitary sewer system (SWMU #116). It is a covered concrete box, about 3 feet by 5 feet in size and about 5 feet deep.

Dates of Operation: This unit has been in operation since 1988.

Wastes Managed: Operations at this unit may generate used oil, solvents, chlorinated solvents, antifreeze, and grease. Washwaters containing residues of these materials may be stored in this unit.

Release Controls: This unit operates without release controls.

History of Releases: The 1988 AEHA inspection noted that in general, recurring maintenance was not performed at proper intervals on the oil/water separators. They were filled to capacity with oil and sediment, allowing oils and greases to be discharged into the sanitary sewer system (2).

4.59.2 Conclusions

Since this unit is new, constructed of concrete, located in a paved area, and there is no history of releases to the environment, the potential for releases to soil, surface water, and ground water is judged to be low. Since the unit is covered, the potential for air releases is also judged to be low. There is no potential for subsurface gas generation.

4.60 SWMU #66 - UNDERGROUND WASTE OIL TANK NEAR BLDG. 45726

Photo: 110

Location: Not Shown

4.60.1 Information Summary

Unit Description: This unit is a 600-gallon steel underground used oil tank located near Bldg. 45726. This tank meets all the new UST requirements. It is double-contained and alarmed.

Dates of Operation: This unit has been in operation since 1988.

Wastes Managed: This unit collects oil from the oil/water separator (SWMU #65) as well as other used oil generated in Bldg. 45726.

Release Controls: The tank has double containment and a leak detection/alarm system.

History of Releases: No releases from this unit are known.

4.60.2 Conclusions

Given the state-of-the-art design of this unit and the adequate release controls that are present, there is low potential for releases to all media from this unit.

4.61 SWMU #67 - WASTE ACCUMULATION AREA NEAR BLDG. 47431

Photo: 61

Location: Figure 3

4.61.1 Information Summary

Unit Description: Bldg. 47431 houses the 120th Flight Platoon and is located at Bryant Army Airfield. A small drum accumulation area is outside, near this building. At the time of the VSI, five drums were sitting on pallets on a gravel surface. The accumulation area is uncovered. The drums contained waste fuel (JP4), waste MOGAS, and waste lube oil (1). The drums appeared to be in very poor condition.

Dates of Operation: The date this unit began operations is unknown, but it is currently active.

Wastes Managed: Wastes accumulated at this unit include dry cleaning solvent, grease, hydraulic fluid, methyl ethyl ketone, naphtha, waste fuels and waste oil (5). At the time of the VSI, waste drums contained waste JP4 fuel, waste MOGAS, and waste lube oil.

Release Controls: Drums are placed on pallets. No other release controls were observed.

History of Releases: During the VSI, extensive staining of the ground surface was observed (1).

4.61.2 Conclusions

Due to the poor condition of the drums and extensive staining of the ground surface during the VSI, the potential for releases to soil is judged to be high. Since the quantities of wastes that may leak or be spilled are quite small, there is only a moderate potential for releases to ground water. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is low potential for air releases since the drums are normally closed. The potential for subsurface gas generation is low.

4.62 SWMU #68 - UNDERGROUND WASTE OIL STORAGE TANK NEAR BLDG. 47641

Photo: None

Location: Figure 3

4.62.1 Information Summary

Unit Description: Bldg. 47641 houses the flying club (6). This unit is an underground waste oil storage tank located near Bldg. 47641. It was not observed during the VSI. No other information about the size, construction, or history of this unit was available.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit currently stores used oil. It may have been previously used for a variety of waste oils and/or fuels.

Release Controls: This unit operates without release controls.

History of Releases: This tank was tested in 1987 and was found to be intact (1).

4.62.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.63 SWMU #69 - UNDERGROUND WASTE OIL STORAGE TANK NEAR BLDG. 57112

Photo: None

Location: Not Shown

4.63.1 Information Summary

Unit Description: Bldg. 57112 is located at Camp Carroll (6). This unit is an underground waste oil storage tank located near Bldg. 57112. It was not observed

during the VSI. No other information about the size, construction, or history of this unit was available.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit currently stores used oil. It may have been previously used for a variety of waste oils and/or fuels.

Release Controls: This unit operates without release controls.

History of Releases: This tank was tested in 1987 and was found to be intact (1).

4.63.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.64 SWMU #70 - WASTE OIL STORAGE TANK AT CAMP CARROLL

Photo: None

Location: Not shown

4.64.1 Information Summary

Unit Description: This unit is an aboveground waste oil storage tank. It was not observed during the VSI. No other information about the size, construction, or history of this unit was available.

Dates of Operation: This unit is currently active. The date it began operation is unknown.

Wastes Managed: This unit currently stores used oil. It may have been previously used for a variety of waste oils and/or fuels.

Release Controls: This unit operates without release controls.

History of Releases: This tank was tested in 1987 and was found to be intact (1).

4.64.2 Conclusions

Since this tank was tested and found to be intact, releases to soil have probably not occurred. The potential for soil or ground water contamination from this unit is therefore judged to be low. The potential for releases to surface water is low due to the distance to the nearest surface water body (about one mile). There is no potential for air releases, since this unit is underground. The potential for subsurface gas generation is low.

4.65 SWMUS #71 THROUGH #87 - ADDITIONAL WASTE ACCUMULATION AREAS

Photo: None

Location: Figure 3

4.65.1 Information Summary

Unit Description: These units include waste accumulation areas which were not observed during the VSI but are reportedly present (1, 6). Listed below is a brief description of the location of each unit and the wastes potentially stored in them:

- SWMU #71 - Waste accumulation area near Bldg. 732: Bldg. 732 is the Reserve Motor Pool. Wastes generated include antifreeze, denatured alcohol, dry cleaning solvent, ethylene glycol, and methanol (5).
- SWMU #72 - Waste accumulation area near Bldg. 755: Bldg. 755 is the Craft Center. Wastes generated include grease, mineral spirits, and oil (5).
- SWMU #73 - Waste accumulation area near Bldg. 756: Bldg. 756 houses the 11th Field Artillery. Activities conducted here include parts cleaning, steam cleaning, touch-up painting, and lubrication and maintenance of vehicles (3). Wastes generated include brake fluid, dry cleaning solvent, grease, hydraulic fluid, helium, kerosene, naphtha, oil, transmission fluid, and trioxane (5).
- SWMU #74 - Waste accumulation area near Bldg. 760: Bldg. 760 is the GSA motor pool. Activities conducted in Bldg. 760 include steam cleaning, lubrication and maintenance of vehicles, and parts cleaning (3). Wastes generated include oils, greases, solvents, and wastewater from steam cleaning.
- SWMU #75 - Waste accumulation area near Bldg. 770: Bldg. 770 houses the 106th MI motor pool. Activities conducted include parts cleaning, steam cleaning, lubrication and maintenance of vehicles. Wastes generated include antifreeze, dry cleaning solvent, denatured alcohol, oil, tetrapotassium pyrophosphate, and wastewater from steam cleaning (3, 5).
- SWMU #76 - Waste accumulation area near Bldg. 778: Bldg. 778 houses the 6th Signal Battalion. Activities conducted in Bldg. 778 include battery rework and lubrication and maintenance of vehicles. Wastes generated include antifreeze, denatured alcohol, dry cleaning solvent, methanol, naphtha, oil, transmission fluid, and battery electrolyte (3, 5).
- SWMU #77 - Waste accumulation area near Bldg. 784: Bldg. 784 is the 706th Maintenance Battalion. Activities conducted here include lubrication and maintenance of vehicles. Wastes generated include antifreeze, brake fluid, denatured alcohol, dry cleaning solvent, hydraulic fluid, naphtha, oil, grease, and transmission fluid (5).
- SWMU #78 - Waste accumulation area near Bldg. 789: Bldg. 789 houses the HHC 6th LID support unit (6). Waste generated include antifreeze, solvents, oil, grease, and transmission fluid.

- SWMU #79 - Waste accumulation area near Bldg. 798: Bldg. 798 is the A Company of the 706th Maintenance Battalion; it is used for vehicle maintenance, radiator flushing and repair, steam cleaning, and parts cleaning. Operations at this unit generate used oil, grease, solvent, antifreeze, and wastewater from steam cleaning (2).
- SWMU #80 - Waste accumulation area near Bldg. 812: Bldg. 812 is the HHC 1st Brigade Support unit. Activities conducted in Bldg. 812 include parts cleaning, lubrication and maintenance of vehicles, steam cleaning, and charging of nickel-cadmium batteries (3). Wastes generated include antifreeze, brake fluid, denatured alcohol, dry cleaning solvent, grease, oil, transmission fluid, and wastewater from steam cleaning (5).
- SWMU #81 - Waste accumulation area near Bldg. 27006. Bldg. 27006 is at the Moose Run Golf Course (6). Waste generated may include grease and oil.
- SWMU #82 - Waste accumulation area near Bldg. 45040: Bldg. 45040 is the Boat Shop. Wastes generated include antifreeze, dry cleaning solvent, oil, and paint thinner (5).
- SWMU #83 - Waste accumulation area near Bldg. 45590: Bldg. 45590 is the Auto Repair Center. Wastes generated include antifreeze, dry cleaning solvent, and oil (5).
- SWMU #84 - Waste accumulation area near Bldg. 47432: Bldg. 47432 houses a helicopter transport company. Activities conducted here include parts cleaning, engine rebuild, battery rework, and spray painting. Wastes generated include oils, solvents, greases, battery electrolyte, and paints (toluene diisocyanate, zinc chromate) (3).
- SWMU #85 - Waste accumulation area near Bldg. 47641: Bldg. 47641 houses the Flying Club (6). Wastes generated may include waste fuel, oil, and grease.
- SWMU #86 - Waste accumulation area near Bldg. 47727: Bldg. 47727 is the National Guard Hangar 6. Wastes generated may include waste fuel, oil, solvents, and grease.
- SWMU #87 - Waste accumulation area at Camp Carroll: Wastes generated include waste fuel, oil, solvents, greases, and antifreeze.

Dates of Operation: These units are currently active. The date operations began is unknown.

Wastes Managed: Wastes potentially managed at these units are listed above.

Release Controls: Although these units were not inspected during the VSI, they reportedly are similar to other waste accumulation areas at Fort Richardson. In general, wastes are stored in 55-gallon drums on pallets. Waste accumulation areas are generally unpaved and uncovered. No other release controls are present.

History of Releases: No information on the history of releases from these units was available.

4.65.2 Conclusions

Assuming these units are in similar condition to those waste accumulation areas inspected during the VSI, there is a high potential for releases to soil. Due to the small quantities of waste handled by most of these units, it is unlikely that transport of contaminants to ground water has occurred or will occur in the future. Since the nearest surface water body is about a mile away from these units, the potential for releases to surface water is also low. Drums are normally stored closed, so there is little likelihood of air releases. There is low potential for subsurface gas generation.

4.66 SWMU #88 - HAZARDOUS WASTE STORAGE AREA (BLDG. 45125)

Photo: 36, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 48

Location: Figure 3

4.66.1 Information Summary

Unit Description: This unit is a 3,100 square-foot heated building located north of the Davis Highway near the west boundary of Fort Richardson. It is operated by DOL. All materials stored at this facility are under DRMO's accountability. The building is located in a fenced area (along with SWMU #89, Bldg. 45133) and surrounded by asphalt. Bldg. 45125 itself has a coated concrete floor. The building is divided into three storage rooms and an office area. Incompatible materials are segregated; there are separate areas for storage of oxidizers, bases, acids, toxics, and water reactives. At the time of the VSI, approximately 80 drums and 100 boxes of batteries were being stored (1). There is a 6-inch curb between each room. There are no floor drains; spills are pumped out as necessary.

Dates of Operations: This unit was placed into operation in 1984 or 1985 and is currently active. It is included in the facility's RCRA Part B permit application as a hazardous waste storage facility.

Wastes Managed: Wastes that may be stored in this unit include PCB-contaminated items, 2,4-D, 2,4,5-T, corrosive liquids, waste bleaching powder, calcium hypochlorite, lithium batteries, magnesium batteries, paint-related wastes, waste oil and grease, water contaminated with gasoline and diesel fuel, used antifreeze, used solvents, diethylene triamine, super tropical bleach, and other hazardous wastes generated on the Post. The capacity of this unit is 32,000 gallons, however, the operating inventory is generally no more than 5,000 gallons (5).

Release Controls: The unit is located inside Bldg. 45125, the floor is coated concrete, and the storage rooms are bermed. The berms provide containment for 66 to 103 percent of the designed storage capacity for each bermed area (10). Containers are stored on wooden pallets to prevent contact with spills. The facility is inspected at least weekly by the facility operators (5).

History of Releases: No evidence of releases was observed during the VSI (1). According to facility personnel, this unit has never had a spill (1).

4.66.2 Conclusions

Since the wastes stored in this unit are located inside Bldg. 45125, there is little potential for releases to soil or ground water. Waste drums are closed during storage, therefore there is little potential for air releases. There is no potential for subsurface gas generation.

This unit is 4,000 feet from Ship Creek (the nearest waterway), and is not within a floodplain. The soil under this site is porous; therefore, the flow of spilled materials to open water is not very likely. The potential for releases to surface water is therefore considered low.

4.67 SWMU #89 - HAZARDOUS WASTE STORAGE AREA (BLDG. 45133)

Photo: 35, 39, 40, 49

Location: Figure 3

4.67.1 Information Summary

Unit Description: This unit is a 3,100-square foot covered concrete pad located adjacent to Bldg. 45125 (SWMU #33). It has a 6-inch curb around all four sides, with ramps on either end and a floor sloping toward the center. It was built for storage of flammable hazardous materials, however, it has never been used for this purpose (1). Contaminated soil in overpacked 55-gallon drums have been stored in this unit. At the time of the VSI, the concrete floor appeared badly cracked. The coating on the concrete floor has blistered and peeled. It has apparently been repaired but still was in poor condition. There are no floor drains. The unit reportedly fills with water each spring; this water is allowed to evaporate. The Army plans to modify this unit in the near future.

Dates of Operation: This unit was built in 1984, and was used until 1987. It is currently inactive.

Wastes Managed: The only wastes that have been stored in this unit are contaminated soils (probably with oil or fuel).

Release Controls: The unit is paved, curbed, and covered, although the floor appeared to be in poor condition.

History of Releases: No releases from this unit have been documented.

4.67.2 Conclusions

Since this unit has hardly been used, it is unlikely that releases have occurred. In addition, Fort Richardson personnel plan to upgrade this facility in the near future, pending EPA and ADEC approval. The potential for releases to all media is judged to be low.

4.68 SWMU #90 - EMERGENCY HAZARDOUS WASTE STORAGE AREA

Photo: 119, 120, 121, 122, 124

Location: Figure 3

4.68.1 Information Summary

Unit Description: This unit is used to assist generators with storage of hazardous waste until it can be transported to the hazardous waste storage area (SWMU #88); it is also used for storage of unknown waste and spill cleanup debris. The unit is operated by the DEH Environmental Resources Branch and is located in Bldg. 35752. The building is about 50 feet by 75 feet in size and is unheated. Prior to being used as an emergency hazardous waste storage area, it housed diesel generators. At the time of the VSI, 12 drums of PCB-containing wastes, stacks of empty drums and overpacks, and several other waste drums were present. Drums are stored on pallets; there are no curbs to separate incompatible wastes. According to facility personnel, contaminated soil from the Roosevelt Road Transmitter Site (AOC #3) was stored in this building last year (1). On the average, waste are stored here for 30 to 45 days.

Dates of Operation: This unit has been in use since October 1987.

Wastes Managed: At the time of the VSI, this unit contained drums of PCB wastes, dry cleaning solvent, paint waste, and denatured alcohol. Any wastes generated at Fort Richardson could potentially be stored in this unit.

Release Controls: No drip pans or berms were observed around the waste drums (1). Drums are stacked on pallets. The unit is located inside an enclosed building. No other release controls were observed.

History of Releases: No information on the history of releases from this unit was available. No evidence of releases was observed during the VSI (1).

4.68.2 Conclusions

Since this unit is located inside Bldg. 35752, there is little potential for releases to soil, ground water, surface water, or air. There is no potential for subsurface gas generation.

4.69 SWMU #91 - TRANSFORMER/CAPACITOR STORAGE AREA

Photo: 10, 11

Location: Figure 3

4.69.1 Information Summary

Unit Description: This unit is located adjacent to Bldg. 700. It is a storage yard for transformers and capacitors, as well as for a variety of pipes, cables, and other equipment. The area is partially paved and fenced. When a transformer is brought to this storage area for subsequent disposal, it is tested. If it contains less than 50 ppm of PCBs, it is sent to DRMO. If it contains greater than 50 ppm of PCBs, it is sent to the hazardous waste storage area (SWMU #88) where it is overpacked.

Dates of Operation: This unit was placed into operation in approximately 1981 and is currently active.

Wastes Managed: Transformers and capacitors in this unit may contain small concentrations of PCBs.

Release Controls: The product storage area is paved. The area where transformers and capacitors are generally stored is gravel. No release controls were observed.

History of Releases: No transformers/capacitors were present at the time of the VSI (1). No evidence of releases was observed.

4.69.2 Conclusions

Since no evidence of releases was observed, and the quantity of PCB-contaminated equipment stored here is small, there is low potential for releases to all media.

4.70 SWMU #92 AND #93 - GREASE PIT #1 AND #2

Photo: 23, 24, 25, 26

Location: Figure 3

4.70.1 Information Summary

Unit Description: Once per month (or as needed), waste grease and cooking oil from the mess halls is collected and transported to these units. Some waste is in barrels, and some is uncontainerized. These units do not have a permit. Each trench is about 20 feet wide, 30 to 40 feet long, and 6 feet deep. During a May 1988 AEHA inspection, the trenches were open with 55-gallon drums and liquid grease floating on the surface of the base of the trench (2). The pits are uncovered. According to facility personnel, oil/water/sediment separator bottoms, fuel tank water, and other materials may have been disposed of in these pits (1). At the time of the VSI, SWMU #92 contained four drums labeled ethylene glycol. These drums had spilled and a brown puddle was present around them (1). SWMU #94 contained eight unidentified drums (1).

Dates of Operation: The date these units began operation is unknown; they have been used as recently as last year and are currently active (1).

Wastes Managed: This unit is used to dispose of grease and cooking oil from the mess halls. Although these units are intended for edible-type grease, evidence of petroleum-type grease and oil has been observed (2). In addition, oil/water/sediment separator bottoms, fuel tank water, ethylene glycol, and a variety of other materials may have been disposed of here (1).

Release Controls: No release controls are present.

History of Releases: No releases from these units have been documented, however, at the time of the VSI several pools of brown and oily-looking material were observed in the pits (1).

4.70.2 Conclusions

Since these pits are unlined, there is a high potential for releases of hazardous constituents to soil and ground water. The distance to the nearest surface water from these pits is about one mile and the wastes are contained in pits below grade, so there is little possibility of releases to surface water. Any runoff would infiltrate into the ground before reaching surface water. The waste materials placed in these units are not particularly volatile, therefore there is a low potential for air releases. The potential for subsurface gas generation is low.

4.71 SWMU #94 - FORMER LANDFILL AREA

Photo: 27, 28, 29, 30, 31, 32

Location: Figure 3

4.71.1 Information Summary

Unit Description: The former landfill area consists of a series of closed sanitary landfills and gravel pits which were filled with solid waste. The entire landfill area (SWMUs #94 and #95) covers approximately 380 acres (2). About 9,500 cubic yards of solid waste material were disposed of in this landfill per year. Landfill trenches were 100 feet by 40 feet in size; fill material was placed from a depth of 280 feet to about 30 feet below the original ground surface. The subsurface material at this unit is sandy gravel and gravelly sand with cobbles and boulders. Depth to ground water is about 133 to 150 feet (2). The former Fire Training Area #2 (SWMU #98) is located on top of this unit. This unit has no secondary containment. At the time of the VSI, this unit was being used for aeration/disposal of petroleum, oil, and lubricant (POL)-contaminated soil. Several piles of contaminated soil were present at varying locations on this unit. An existing gravel pit operation is located adjacent to this site.

Dates of Operation: This unit was reportedly in operation between 1945 and 1982, and is currently inactive. According to facility reports, wastes may have been received as recently as December 1, 1987 (2). During the VSI, however, active use of this unit for aeration/disposal of POL-contaminated soil was observed.

Wastes Managed: This unit was used for disposal of solid and sanitary wastes from throughout the Post, including household refuse, construction debris, workshop residues, office waste, asphalt, wood, and pesticide containers. Miscellaneous hazardous wastes and/or materials may have been disposed at this site over the years, including solvents, paints, contaminated soil, and other materials.

Release Controls: This unit has been graded; it is unknown whether it has been capped. No other release controls are present.

History of Releases: Three monitoring wells have been installed at this site. Based on the regional ground water flow direction (which is to the west), one of these wells is probably upgradient, and two are downgradient. Sampling has been conducted since June 1985. Results indicate an "inconsistent trend" for manganese, lead, chromium, sodium, and potassium; early results showed

concentrations above the primary drinking water standards, but much lower concentrations were detected in subsequent sampling events (2). A 1984 inspection indicated that indiscriminate dumping was occurring at this unit, which resulted in improper cover contouring and drainage control. This may have resulted in ponding and infiltration of water through the landfill. POL-contaminated soils were also observed, with a strong odor of petroleum noted (20). A May 1988 AEHA inspection identified visible POL stains adjacent to the piles of contaminated soil being treated/stored at this site (2).

4.71.2 Conclusions

Many kinds of wastes, including hazardous wastes, may have been disposed of in this landfill. Since the landfill has no liner or other release controls, the potential for releases to soil and ground water from this unit is high. Soil staining has been observed and ground water sampling indicates a potential problem. The number of monitoring wells is inadequate for the size of the site and the drilling logs/well construction information is poorly documented. Ground water elevations and the direction of flow have not been determined.

Food and other putrescible wastes were placed in this landfill, therefore there is a moderate potential for subsurface gas generation. Since this unit is not capped, however, any methane gas generated may slowly seep into the atmosphere rather than accumulate underground.

The distance to the nearest surface water from this unit is about one mile, so there is little possibility of releases to surface water. Any runoff would infiltrate into the ground before reaching surface water. Since all waste materials have been covered, there is little potential for air releases.

4.72 SWMU #95 - "CURRENT" LANDFILL

Photo: 33, 34

Location: Figure 3

4.72.1 Information Summary

Unit Description: This unit is a trench landfill with separate areas for construction debris, domestic waste, and asbestos. The landfill has a Solid Waste Management Permit from the State of Alaska (Permit No. 8421-BA005, expires 8/31/89). Since December 1, 1987, solid wastes have been transported to the Anchorage municipal landfill for disposal. At the time of the VSI, portions of this unit had recently been covered but not yet reseeded (1). Some blowing trash was observed. Some leveling is still ongoing. Several piles of asphalt were observed, and some water had ponded in the low-lying areas of the excavation.

Dates of Operation: This unit was actively used between 1983 and 1987 (1); it is currently inactive (undergoing closure).

Wastes Managed: This unit was used for disposal of solid and sanitary wastes from throughout the Post. Miscellaneous hazardous wastes and/or materials may have been disposed at this site over the years, including solvents, paints, contaminated soil, and other materials.

Release Controls: This unit has no release controls. The unit is currently being graded in preparation for closure.

History of Releases: No evidence of releases was observed during the VSI (1). A Remedial Investigation is scheduled to be conducted at this unit.

4.72.2 Conclusions

Since many kinds of materials (including hazardous waste) may have been disposed of in this unit, and no release controls are present, there is a high potential for releases to soil and ground water from this unit. Little is known about the ground water directly beneath this unit. Although there are three monitoring wells in the vicinity of SWMUs #94 and #95, the number of monitoring wells is inadequate for the size of the site and the drilling logs/well construction information is poorly documented. Ground water elevations and the direction of flow have not been determined.

Food and other putrescible wastes were placed in this landfill, therefore there is a moderate potential for subsurface gas generation. Since this unit is not capped, however, any methane gas generated may slowly seep into the atmosphere rather than accumulate underground.

The distance to the nearest surface water from this unit is about one mile, so there is little possibility of releases to surface water. Any runoff would infiltrate into the ground before reaching surface water. Since all waste materials have been covered, there is little potential for air releases.

4.73 SWMU #96 - TRANSFER STATION

Photo: 50

Location: Figure 4

4.73.1 Information Summary

Unit Description: This unit is a transfer station for solid wastes that are to be disposed of in the Anchorage Municipal Landfill. No other information on this unit was available.

Dates of Operation: This unit has been active since 1987.

Wastes Managed: Wastes managed include any kind of solid wastes generated on the Post. Hazardous materials (except asbestos) are not allowed in this unit.

Release Controls: The inside of this unit was not observed during the VSI, so no information on release controls was obtained. The unit appeared to be a state-of-the-art transfer station, however.

History of Releases: No releases from this unit have been documented.

4.73.2 Conclusions

Releases from this unit to all environmental media are judged to be low.

4.74 SWMU #97 - FORMER FIRE TRAINING AREA #1

Photo: 51, 51, 53, 54, 55, 56

Location: Figure 4

4.74.1 Information Summary

Unit Description: This unit was used for firefighter training. The actual burn area at this unit (most recent) is about 50 feet in diameter (2). According to facility personnel, the Post fire department dug a pit or berm, placed water in it, placed waste fuel on top of the water, then set it on fire. This site is also the location of a former landfill. A trench area is located on one side of this unit. Piles of wood, metal, plastic, and other debris were located throughout the large (about 10 acre) site. During the VSI, many areas of heavy soil staining were observed (see photo 56 for an example). Burned wood and other charred debris were also observed throughout the site. At the back of the site, a large gully was observed. This gully contained many large piles of debris including trees, metal, lumber, concrete, corrugated pipe, and soil.

Dates of Operation: This unit was used prior to 1985.

Wastes Managed: Waste fuel used at this site was primarily JP-4. The fuel was probably contaminated with chlorinated and non-chlorinated solvents (1). The landfill may have been used for disposal of all wastes generated on the Post.

Release Controls: According to previous reports, the main burn area has an unlined containment berm, about 6 inches high (2). This was not observed during the VSI, however (1).

History of Releases: During the May 1988 AEHA visit, numerous drums and cans were observed at this unit. Ground staining was also observed (2). Many other areas of soil staining were observed during the VSI (1). A soil gas survey conducted at this site in 1989 indicated the presence of benzene to 250 ppm, toluene to 2500 ppm, and xylene to 1200 ppm (18). A CERCLA Site Inspection has been conducted at this site as part of the Installation Restoration Program. Contaminants were detected but little or no migration was found. A Feasibility Study was performed in 1989 to determine remedial action options (1).

4.74.2 Conclusions

Based on the operating history of this unit and on observations made during the VSI, the potential for releases to soil and ground water from this unit are judged to be high. Since surface water is at some distance from this unit (at least one mile), the potential for releases to surface water is low. Air releases may have occurred during fire fighter training exercises, however, it is unlikely that there are any ongoing releases. There is low potential for subsurface gas generation.

4.75 SWMU #98 - FORMER FIRE TRAINING AREA #2

Photo: 27, 31

Location: Figure 3

4.75.1 Information Summary

are there?

Unit Description: This unit reportedly was a pit, approximately 50 feet in diameter (2), used for firefighter training. It is located over a former landfill area (SWMU #94) and is currently being used for aeration and disposal or POL-contaminated soil. This unit had an ADEC permit (No. 8321-AA004) for open burning for firefighter training which expired on January 30, 1988. The permit has not been renewed. During the VSI, no evidence of burning was observed. The piles of dirt and gravel covering the site appeared to be oily (1).

Dates of Operation: 1985 to 1988. The unit is currently inactive. In 1988 it was determined to be unusable by the Fort Richardson Fire Chief and training activities were suspended (2).

Wastes Managed: Fuels and fuels mixed with solvents were used to create fires for fire training activities. In addition, soils contaminated with POL products were reportedly also burned as part of fire training activities (5).

Release Controls: This unit operated without release controls.

History of Releases: During a 1988 AEHA visit, POL ground staining was visible in the pit (2). At the time of the VSI, the pit had been filled in with soil and was being used for aeration of POL-contaminated soil; the pit was no longer visible (1). A soil gas survey conducted at this site in 1989 indicated the presence of benzene to 820 ppm, toluene to 910 ppm, and xylene to 480 ppm (18). A CERCLA Site Inspection has been conducted at this site as part of the Installation Restoration Program. Contaminants were detected but little or no migration was found. A Feasibility Study was performed in 1989 to determine remedial action options (1).

4.75.2 Conclusions

Based on previous observations and the operating practices for this unit, the potential for releases to soil and ground water is judged to be high. Since surface water is at some distance from this unit (at least one mile), the potential for releases to surface water is low. Air releases may have occurred during fire fighter training exercises, however, it is unlikely that there are any ongoing releases. There is low potential for subsurface gas generation.

4.76 SWMU #99 - FORMER OPEN BURNING/OPEN DETONATION AREA

Photo: 18, 19, 20

Location: Figure 4

4.76.1 Information Summary

Unit Description: This unit consists of a series of pits located on the floodplain adjacent to the Eagle River mudflats in the EOD range. It covers

about one-half acre and was used for the occasional thermal treatment of unserviceable ordnance items by open detonation. The site was cleaned and graded every year or two (2). This facility did not have a RCRA permit; a new, permitted facility is being constructed. Several thousand pounds per year of ordnance items were treated in this unit (1). The area has been graded, although some remains of a pit are visible (1). It is partly vegetated, with some debris spread nearby.

Dates of Operations: This unit was in operation from at least 1977 to November 1988. It is currently inactive. It was used approximately five times per year during the summer months. About 1,000 pounds of explosives were detonated with C-4 explosive in pits during each burn.

Wastes Managed: Items treated include fuses, 105-mm projectiles, smoke pots, mortar rounds, rocket motors, and miscellaneous items (2). Ash and residues may be a hazardous waste (2). Additional waste materials include C-4 explosive, blasting caps, and detonating cord (PETN). According to facility personnel, during the 1940's through 1960's, other materials may have been placed in this swampy area, including chemical weapons (1).

Release Controls: No release controls are present.

History of Releases: During the 1988 AEHA visit, no ground staining was observed (2). Reportedly, the floodplain fills with water each spring (1), which may result in environmental releases of hazardous constituents. No soil sampling has been conducted at this unit, although hazardous residues were reportedly removed after each burn (1).

4.76.2 Conclusions

Since this unit is located in a floodplain which reportedly covers the area each spring, there is high potential for release to surface water. Although most hazardous residues are removed after each burn, it is likely that some hazardous constituents have been released to soil. Ground water is probably quite near the surface at this location, therefore the potential for releases to ground water is also quite high. Due to the nature of the wastes, there is little potential for subsurface gas generation. Although air releases may have occurred during open burning activities, the potential for ongoing air releases is low.

4.77 SWMU #100 - OPEN BURNING SITES AT FIRING POINTS

Photo: None

Location: Figure 4

4.77.1 Information Summary

Unit Description: McLaughlin Range is used as a firing range for shoulder-mounted or door-mounted weapons. Reportedly, elements of the 6th ID(L) open burn excess waste powder bags on McLaughlin Range at various firing points during field training exercises (2). There are 27 fixed firing points; five or six are most frequently used (2). During the VSI, facility personnel indicated no knowledge of the existence or specific location of this unit (1). No open burning permits have been obtained for this unit.

Dates of Operation: The dates of operation are unknown.

Wastes Managed: No information on specific wastes managed was available, however, the hazardous constituent of greatest concern for this type of unit is lead.

Release Controls: No release controls are reportedly present (1).

History of Releases: During the 1988 AEHA inspection, a pit was observed at firing point #2. Evidence of staining and burn residues were also observed (2).

4.79.2 Conclusions

There is insufficient information about this unit to assess the potential for releases to soil, ground water, or air. Releases to surface water are considered unlikely due to the distance to the nearest surface water body (about one mile to Eagle Bay). Soil is considered to be the medium of primary concern. There is no potential for subsurface gas generation.

4.78 SWMU #101 - DEACTIVATION OR "POPPING" FURNACE

Photo: 101, 102, 103, 104, 105, 106

Location: Figure 3

4.78.1 Information Summary

Unit Description: This unit is an Ammunition Peculiar Equipment (APE) 1236 rotary retort equipped with a cyclone separator and baghouse for emissions control. The furnace is also equipped with a lead melt-out system to recover lead from cartridges. The amount of lead recovered is reportedly minimal (2). The rated capacity of this unit is unknown. It is located at Bldg. 55295. It is used to thermally treat various small arms ammunition (.22 through .50 caliber), primers, and fuses. This unit does not have a permit.

Dates of Operation: This unit has been in service since May 1988. It is operated about 160 hours per year during late spring to early fall (2).

Wastes Managed: These materials are considered "Class C" munitions and are not considered to be a hazardous waste by facility personnel. During its initial operation, this unit was used to treat 6000 M125A1 booster/M557 PD fuses. It was also used to decontaminate spent brass prior to its sale as scrap metal (2). The ash generated by this unit is high in lead and chromium (1). The ash is disposed of as a hazardous waste.

Release Controls: The cyclone separator and baghouse control emissions to the atmosphere.

History of Releases: During the 1988 AEHA inspection, the unit was observed in operation; no visible emissions were observed (2).

4.78.2 Conclusions

Due to the nature of the wastes managed, there is little potential for releases to soil, ground water, or surface water from this unit. The existing release

controls serve to minimize air releases. There is no potential for subsurface gas generation.

4.79 SWMU #102 - PATHOLOGICAL WASTE INCINERATOR

Photo: 63

Location: Figure 3

4.79.1 Information Summary

Unit Description: This unit is located outside of Bldg. 47811 (the Veterinary Clinic). It is a Consumat Model C32P, rated at 85 lbs/hr of Type 4 (pathological) waste. The unit is used to incinerate small animal carcasses and infectious waste generated at the Troop Medical Clinic (2). The unit is diesel-fired; an underground diesel fuel tank is located near the unit. (This tank was included in a recent testing program of all underground tanks on the post.)

Dates of Operation: This unit is currently inactive. It was reportedly last used one year ago (1).

Wastes Managed: This unit was used to incinerate pathological and infectious waste.

Release Controls: The unit is not enclosed in any type of shelter. No other information on release controls was available.

History of Releases: During the 1988 AEHA inspection, the incinerator was observed to be in an extremely poor state of repair (2). The refractory was severely cracked with large pieces missing near the door. Evidence of metal fatigue and cracked welds was noted, and leakage was observed during operation of the unit. The gasket around the door was also badly deteriorated, contributing to the fugitive emissions (2). When observed in operation on May 24, 1988, visible emissions exceeded ADEC standards for opacity of emissions (2). The unit was not in operation during the VSI (1).

4.79.2 Conclusions

There is little potential for releases to soil, surface water, or ground water from this unit due to the nature of the wastes managed (solid) and the construction of the unit. It appears that past releases to air have occurred, however, since the unit is inactive and further use is not planned, there is little chance for future air releases. There is no potential for subsurface gas generation.

4.80 SWMU #103 - CLASSIFIED WASTE INCINERATOR

Photo: None

Location: Figure 3

4.80.1 Information Summary

Unit Description: This unit is a Smokatrol, Inc. Model 600 incinerator used for the destruction of classified documents from throughout the Post. It is

located inside Building 36013. This unit was not observed during the VSI. It was included as a modification to Air Quality Control Permit No. 8321-AA004 on September 18, 1984.

Dates of Operation: Inactive. This unit was shut down for repairs in October 1984. A letter from the Army in December 1986 informed ADEC that this incinerator would no longer be used.

Wastes Managed: This unit was used to incinerate paper.

Release Controls: No information on release controls was available.

History of Releases: No information on the history of releases from this unit was available.

4.80.2 Conclusions

Due to the absence of hazardous constituents in the wastes managed in this unit, there is no potential for releases to soil, surface water, ground water, or air. In addition, there is no potential for subsurface gas generation.

4.81 SWMU #104 THROUGH #114 - FORT RICHARDSON POWER PLANT

Photo: 111, 112, 113, 114, 115, 116

Location: Figure 3

4.81.1 Information Summary

Unit Description: The power plant consists of several SWMUs. The power plant has eight boilers, four of which are coal-fired. Each coal-fired boiler is associated with a Joy multiclone precipitator (SWMUs #48 through #51). The multiclone precipitators are used to remove particulate matter from the exhaust gases prior to discharge to the atmosphere. Bottom ash is collected below the boilers in an ash hopper (SWMU #52). The ash is disposed of at the Anchorage Municipal Landfill. Two air wash units (SWMU #53 and #54) collect fine dust; water and the dust are then piped to two sludge tanks (SWMUs #55 and #56), each about 8 feet long by 5 feet wide and about 1 foot deep. The sludge tanks drain into the sanitary sewer system (SWMU #116). Two cyclone separators (SWMUs #57 and #58) are used to eliminate any remaining particulates from the exhaust. All units except the cyclone separators are located inside Bldg. 36012; the cyclone separators are located on the roof of Bldg. 36012. The power plant has a permit to operate which expired on January 1, 1988 (2).

Dates of Operation: These units are active, although in 1987 and 1988, coal was consumed only for emissions testing (not for power generation).

Wastes Managed: These units manage exhaust gases, ash, and washwaters from coal-fired Boilers No. 1 through 4.

Release Controls: These units serve as release controls to minimize air emissions from the power plant.

History of Releases: Tests by the U.S. AEHA in 1977, 1983, and 1987 indicated that particulate standards may be exceeded.

4.81.2 Conclusions

There is little potential for releases to soil, surface water, or ground water from these units since they are located inside Bldg. 36012. Air releases from the power plant have occurred, however, and may be ongoing when the coal-fired boilers are in operation. There is no potential for subsurface gas generation.

4.82 SWMU #115 - STORM DRAINAGE SYSTEM

Photo: 62, 91

Location: Throughout the main cantonment area.

4.82.1 Information Summary

Unit Description: The storm drainage system consists of unlined culverts and pipe ranging from 10 to 54 inches in diameter. Most pipes are constructed of concrete, although some are of aluminum, corrugated metal, and asbestos cement. The storm drainage system reportedly freezes during the winter months (2). The storm drainage system discharges principally to Ship Creek (Figure 2). Fort Richardson does not have an NPDES permit for stormwater discharges.

Dates of Operation: The main cantonment area at Fort Richardson was constructed in 1955. The storm drainage system probably dates to this period.

Wastes Managed: Stormwater may contain oils, fuels, solvents, and other materials washed from maintenance areas and runways.

Release Controls: No release controls were observed.

History of Releases: There is no documentation of releases from this unit.

4.82.2 Conclusions

Since much of the storm drainage system is unlined, and since it drains to Ship Creek, there is a high potential for releases of hazardous constituents to soil and surface water and from this unit. In addition, there is a moderate potential for releases to ground water from the unlined storm ditches. The potential for releases to air and for subsurface gas generation is low.

4.83 SWMU #116 - SANITARY SEWER SYSTEM

Photo: None

Location: Throughout the main cantonment area.

4.83.1 Information Summary

Unit Description: The sanitary sewer mains are constructed mainly of concrete, although some are of asbestos cement and cast iron. Fort Richardson has about 200,000 linear feet of sanitary sewer lines 8 to 24 inches in diameter (2). The sewer lines are buried at a depth of 4 feet or more. Sewage flow from Fort Richardson is by gravity flow to a metering station before discharge into a municipal-owned, 24-inch collection main. There are no sewage lift pumping

stations at Fort Richardson. Sewage has been transported to the Anchorage Municipal Wastewater Treatment Plant since 1971. The average wastewater flow is about 992,000 gallons per day.

The overall condition of the sewage collection system is poor. Damage was caused by the 1964 earthquake which was never repaired. Periodic maintenance and minor repairs of the collection system are performed and the lines are cleaned out semiannually. Sewer lines in the housing areas are flushed periodically to remove grease accumulation (2).

The sewer system experiences about 42 percent infiltration and inflow during the spring breakup.

Dates of Operation: This unit is currently active.

Wastes Managed: Besides sanitary wastewater, the sanitary sewer system collects industrial wastewaters from the tactical vehicle maintenance shops and vehicle wash racks (through oil/water/sediment separators), the boiler plant, the water treatment plant, the laundry/dry cleaning facility, and the photo lab (after processing through a silver recovery unit). The wastewater contains high levels of oils, greases, and fats (454 mg/L oil and grease)(2).

Release Controls: This unit operates without release controls.

History of Releases: The Anchorage Municipal Code prohibits discharge of water containing greater than 100 mg/L oil and grease. This has been exceeded by the Fort Richardson discharge.

4.83.2 Conclusions

Due to the poor condition of the sanitary sewer system, and the discharge of industrial wastewaters to this system, there is a moderate potential for releases of hazardous constituents to soil and ground water. There is a low potential for releases to surface water since this unit is not adjacent to any surface water bodies. There is no potential for air releases since the sewer pipes are buried underground. There is low potential for subsurface gas generation.

4.84 POTENTIAL SOLID WASTE MANAGEMENT UNITS

4.84.1 SWMU #117 - EAGLE RIVER FLATS AIR ARTILLERY RANGE

A large number of dead waterfowl has been observed in the Eagle River Impact Area. An interagency task force studying this problem has ruled out all causes of death except biological toxins and chemicals (17). A bird survey was performed last year; this year the Army's contractor will sample water and sediment (1) under the Installation Restoration Program. The reason for the bird deaths is unknown, but contaminants resulting from the Army's activities are suspected. Remediation or cleanup of this area would be difficult if not impossible, due to the quantities of unexploded ordnance present.

4.84.2 SWMU #118 - ROOSEVELT ROAD TRANSMITTER SITE

The Roosevelt Road Transmitter Site (photos 57, 58, 59, 60) is located about 1 mile north of Camp Carroll (Figure 3). During the late 1970's, a transformer

in an underground concrete bunker was vandalized for its copper content. PCB oil was sprayed around the area. The cleanup crew washed the 50-foot by 300-foot pad with diesel fuel, then sealed the bunker. The U.S. EPA reportedly declared the site clean in 1978 (1). Army personnel recently (1987) entered the bunker and found up to 76,900 ppm of PCBs on top of the pad (15). Dead rabbits were found inside the bunker. Signs of campfires on the pad were also observed. PCB contamination greater than 10 ppm covered about 400 square feet of the ground surface.

Last year, about 300,000 pounds of contaminated soil and overburden were removed from this site. A liner was put in place and the excavation filled with clean material. The concrete pad was cleared and encapsulated with epoxy. Some spot contamination is still present at this site. Plans for next year include finding any contamination tracked off the pad and an investigation inside the bunker. Reportedly there is a well and a septic tank (or field) inside the bunker. The area is not fenced; it is bermed and has posted warning signs.

During the VSI, a can of PCB waste was observed in the brush about 100 feet away from the site (Photo 57). No release controls were present around this can.

4.84.3 SWMU #119 - LEAKING UNDERGROUND STORAGE TANKS

There are approximately 174 underground storage tanks at Fort Richardson. Several oil and fuel tanks at Fort Richardson were tested during the summer of 1987 and determined to be leaking. These are:

- a 5,000-gallon MOGAS (unleaded regular) tank located at Building 702 (the gas station)
- a 1,000-gallon fuel oil tank at Building 908 (the printing office)
- a 300-gallon MOGAS tank at Building 36012 (the power plant), where a leak is suspected at the top of the tank.

These tanks will be removed within the next year as part of the facility's leaking underground storage tank program.

4.84.4 SWMU #120 - FORMER UNDERGROUND STORAGE TANK NEAR BLDG. 726

A 1,000-gallon carbon steel underground tank containing petroleum solvent for use in the Post laundry facility (Building 726) was recently (within the last five years) removed. The tank had probably been in place since 1956. During excavation, soil was removed and aerated (SWMU #15). Although an HNu organic vapor detector did not indicate the presence of organics in the atmosphere near the excavated soil, no soil samples were collected. The area is currently paved, so no evidence of releases was observed during the VSI (1).

It is evident that releases to soil from this unit have occurred. Some soil was removed and treated but no sampling was performed to verify that all contaminated soil had been removed. Therefore, some residual soil contamination may still be present. The potential for past releases to soil is judged to be high, and the potential for releases to ground water is moderate, although paving of the area has likely reduced the movement of ground water.

4.85 SUMMARY OF RELEASE POTENTIALS

Table 3 presents a summary of the conclusions regarding release potentials for each of the solid waste management units and potential solid waste management units identified during the RFA.

Table 3

SUMMARY OF ONGOING RELEASE POTENTIALS FOR SWMUS
AT FORT RICHARDSON

<u>SWMU No.</u>	<u>Description</u>	<u>Soil</u>	<u>Ground Water</u>	<u>Surface Water</u>	<u>Air</u>	<u>Sub- Surface Gas</u>
1	Waste Accumulation Area Near Bldg. 700	H	M	L	L	L
2	Paint Spray Booth in Bldg. 700	L	L	L	L	N
3	Waste Accumulation Area Near Bldg. 704	H	M	L	L	L
4	DEH Drum Storage Yard Near Bldg. 704	H	M	L	H	L
5	Wash Rack Sump in Bldg. 704	L	L	L	L	N
6	Oil/Water Separator Near Bldg. 704	L	L	L	L	N
7	Waste Accumulation Area Near Bldg. 710	L	L	L	L	N
8	Pesticide Mixing Area Sump in Bldg. 721	L	L	L	L	L
9	Waste Accumulation Area Near Bldg. 726	L	L	L	L	N
10	Distillation Unit #1 in Bldg. 726	L	L	L	H	N
11	Distillation Unit #2 in Bldg. 726	L	L	L	H	N
12	Distillation Unit #3 in Bldg. 726	L	L	L	H	N
13	Aeration Box in Bldg. 726	L	L	L	M	N
14	Vapor Reclamation Unit in Bldg. 726	L	L	L	U	N
15	Former Soil Aeration Area Near Bldg. 726	U	U	L	L	L
16	Underground Waste Oil Storage Tank Near Bldg. 732	H	H	L	N	L
17	Waste Accumulation Area Near Bldg. 740	M	L	L	L	L
18	Oil/Water Separator Near Bldg. 740	L	L	L	L	N
19	Underground Waste Oil Tank Near Bldg. 740	L	L	L	N	L
20	Waste Accumulation Area Near Bldg. 750	M	L	L	L	L
21	Oil/Water Separator #1 Near Bldg. 750	L	L	L	L	N
22	Oil/Water Separator #2 Near Bldg. 750	L	L	L	L	N
23	Underground Waste Oil Tank #1 Near Bldg. 750	L	L	L	N	L
24	Underground Waste Oil Tank #2 Near Bldg. 750	L	L	L	N	L
25	Oil/Water Separator Near Bldg. 754	L	L	L	L	N

Table 3 (Continued)

SUMMARY OF ONGOING RELEASE POTENTIALS FOR SWMUS
AT FORT RICHARDSON

<u>SWMU No.</u>	<u>Description</u>	<u>Soil</u>	<u>Ground Water</u>	<u>Surface Water</u>	<u>Air</u>	<u>Sub- Surface Gas</u>
26	Underground Waste Oil Tank Near Bldg. 755	L	L	L	N	L
27	Paint Spray Booth in Bldg. 755	L	L	L	L	N
28	Oil/Water Separator Near Bldg. 756	L	L	L	L	N
29	Underground Waste Oil Tank Near Bldg. 756	L	L	L	N	L
30	Underground Used Oil Tank Near Bldg. 770	L	L	L	N	L
31	Oil/Water Separator Near Bldg. 778	L	L	L	L	N
32	Oil/Water Separator Near Bldg. 784	L	L	L	L	N
33	Waste Accumulation Area Near Bldg. 796	H	M	L	L	L
34	Sumps and Wash Rack in Bldg. 796	L	L	L	L	N
35	Underground Used Oil Tank Near Bldg. 796	L	L	L	N	L
36	Paint Spray Booth in Bldg. 796	L	L	L	L	N
37	Former Underground Neutralization Tank Near Bldg. 796	H	H	L	N	N
38	Underground Used Oil Tank #1 Near Bldg. 798	L	L	L	N	L
39	Underground Used Oil Tank #2 Near Bldg. 798	L	L	L	N	L
40	Oil/Water Separator Near Bldg. 812	L	L	L	L	N
41	Used Oil Transfer Area at Bldg. 955	H	M	L	M	L
42	Underground Waste Oil Tank Near Bldg. 955	L	L	L	N	L
43	Underground Slop Fuel Tank Near Bldg. 955	L	L	L	N	L
44	Waste Accumulation Areas Near Bldg. 974	M	L	L	L	L
45	Waste Solvent Accumulation Area Near Bldg. 974	H	L	L	M	L
46	Fuel Blivet Cleaning Area Near Bldg. 974	L	L	L	L	N
47	Oil/Water Separator at Fuel Blivet Cleaning Area	L	L	L	L	N
48	Underground Waste Oil Tank Near Bldg. 974	L	L	L	N	L
49	Oil/Water Separator Near Bldg. 974	L	L	L	L	N
50	Wash Rack Sump in Bldg. 975	L	L	L	L	N

Table 3 (Continued)

SUMMARY OF ONGOING RELEASE POTENTIALS FOR SWMUS
AT FORT RICHARDSON

<u>SWMU No.</u>	<u>Description</u>	<u>Soil</u>	<u>Ground Water</u>	<u>Surface Water</u>	<u>Air</u>	<u>Sub- Surface Gas</u>
51	Oil/Water Separator #1 Near Bldg. 975	L	L	L	L	N
52	Oil/Water Separator #2 Near Bldg. 975	L	L	L	L	N
53	Underground Waste Oil Storage Tank Near Bldg. 975	L	L	L	N	L
54	Waste Accumulation Area Near Bldg. 976	M	L	L	L	L
55	Paint Spray Booth in Bldg. 976	L	L	L	L	N
56	Former Acid Bath/Neutralization Tank in Bldg. 976	L	L	L	L	N
57	Fiberglass Filter in Bldg. 976	L	L	L	L	N
58	Silver Recovery Unit in Bldg. 978	L	L	L	L	N
59	Paint Spray Booth in Bldg. 978	L	L	L	L	N
60	Waste Accumulation Area Near Bldg. 986	H	L	L	L	L
61	Underground Waste Fuel Tank Near Bldg. 986	L	L	L	N	L
62	Waste Accumulation Area Near Bldg. 36012	M	L	L	L	L
63	Underground Waste Oil Storage Tank Near Bldg. 45590	L	L	L	N	L
64	Waste Accumulation Area Near Bldg. 45726	L	L	L	L	N
65	Oil/Water Separator Near Bldg. 45726	L	L	L	L	N
66	Underground Waste Oil Tank Near Bldg. 45726	L	L	L	L	L
67	Waste Accumulation Area Near Bldg. 47431	H	M	L	L	L
68	Underground Waste Oil Storage Tank Near Bldg. 47641	L	L	L	N	L
69	Underground Waste Oil Storage Tank Near Bldg. 57112	L	L	L	N	L
70	Waste Oil Storage Tank - Camp Carroll	L	L	L	N	L
71	Waste Accumulation Area Near Bldg. 732	H	L	L	L	L
72	Waste Accumulation Area Near Bldg. 755	H	L	L	L	L
73	Waste Accumulation Area Near Bldg. 756	H	L	L	L	L
74	Waste Accumulation Area Near Bldg. 760	H	L	L	L	L
75	Waste Accumulation Area Near Bldg. 770	H	L	L	L	L

Table 3 (Continued)

SUMMARY OF ONGOING RELEASE POTENTIALS FOR SWMUS
AT FORT RICHARDSON

SWMU No.	Description	Soil	Ground Water	Surface Water	Air	Sub- Surface
						Gas
76	Waste Accumulation Area Near Bldg. 778	H	L	L	L	L
77	Waste Accumulation Area Near Bldg. 784	H	L	L	L	L
78	Waste Accumulation Area Near Bldg. 789	H	L	L	L	L
79	Waste Accumulation Area Near Bldg. 798	H	L	L	L	L
80	Waste Accumulation Area Near Bldg. 812	H	L	L	L	L
81	Waste Accumulation Area Near Bldg. 27006	H	L	L	L	L
82	Waste Accumulation Area Near Bldg. 45040	H	L	L	L	L
83	Waste Accumulation Area Near Bldg. 45590	H	L	L	L	L
84	Waste Accumulation Area Near Bldg. 47641	H	L	L	L	L
85	Waste Accumulation Area Near Bldg. 47432	H	L	L	L	L
86	Waste Accumulation Area Near Bldg. 47727	H	L	L	L	L
87	Waste Accumulation Area at Camp Carroll	H	L	L	L	L
88	Hazardous Waste Storage Area at Bldg. 45125	L	L	L	L	N
89	Hazardous Waste Storage Area at Bldg. 45133	L	L	L	L	L
90	Emergency Hazardous Waste Storage Area at Bldg. 35752	L	L	L	L	N
91	Transformer/Capacitor Storage Area Near Bldg. 700	L	L	L	L	L
92	Grease Pit #1	H	H	L	L	L
93	Grease Pit #2	H	H	L	L	L
94	Former Landfill Area	H	H	L	L	M
95	"Current" Landfill	H	H	L	L	M
96	Transfer Station	L	L	L	L	N
97	Former Fire Training Area #1	H	H	L	L	L
98	Former Fire Training Area #2	H	H	L	L	L
99	Former OB/OD Area	H	H	H	L	L
100	Open Burning Sites at Firing Points	U	U	U	L	N

Table 3 (Continued)

SUMMARY OF ONGOING RELEASE POTENTIALS FOR SWMUS
AT FORT RICHARDSON

SWMU No.	Description	<u>Soil</u>	<u>Ground Water</u>	<u>Surface Water</u>	<u>Air</u>	Sub- Surface
						<u>Gas</u>
101	Popping Furnace	L	L	L	L	N
102	Pathological Incinerator	L	L	L	L	N
103	Classified Waste Incinerator	N	N	N	N	N
104	Multiclone Precipitator #1	L	L	L	L	N
105	Multiclone Precipitator #2	L	L	L	L	N
106	Multiclone Precipitator #3	L	L	L	L	N
107	Multiclone Precipitator #4	L	L	L	L	N
108	Ash Hoppers	L	L	L	L	N
109	Air Wash Unit #1	L	L	L	L	N
110	Air Wash Unit #2	L	L	L	L	N
111	Sludge Tank #1	L	L	L	L	N
112	Sludge Tank #2	L	L	L	L	N
113	Cyclone Separator #1	L	L	L	L	N
114	Cyclone Separator #2	L	L	L	L	N
115	Storm Drainage System	H	M	H	L	L
116	Sanitary Sewer System	M	M	L	N	L

KEY:

H - High

M - Medium

L - Low

N - None

U - Unknown

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